DOCUMENT RESUME

ED 032 952 RC 003 655

Education and Outdoor Recreation.

Department of the Interior, Washington, D.C. Bureau of Outdoor Recreation.

Pub Date Aug 68

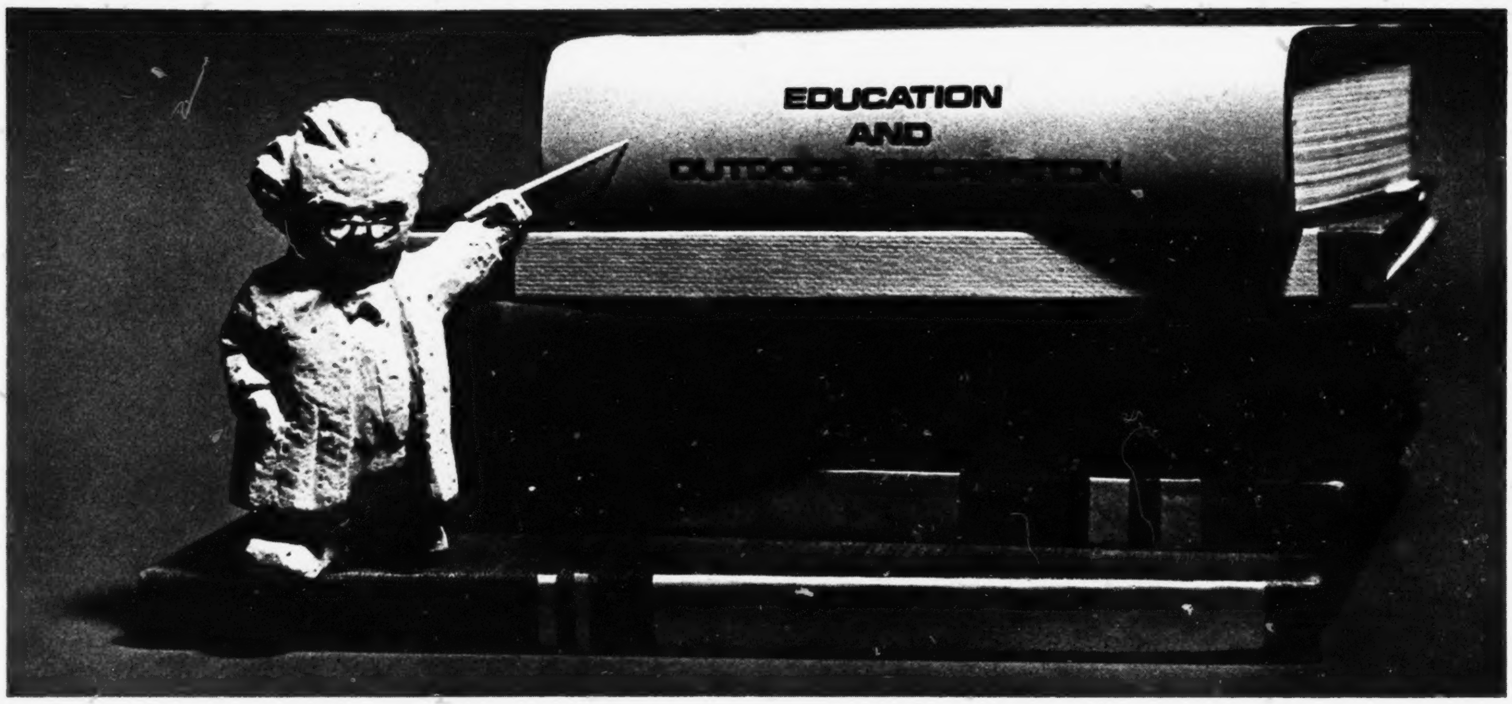
Note-49p.

Available from-Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402 (0-323-549, $0.75).

EDRS Price MF-$0.25 HC Not Available from EDRS.

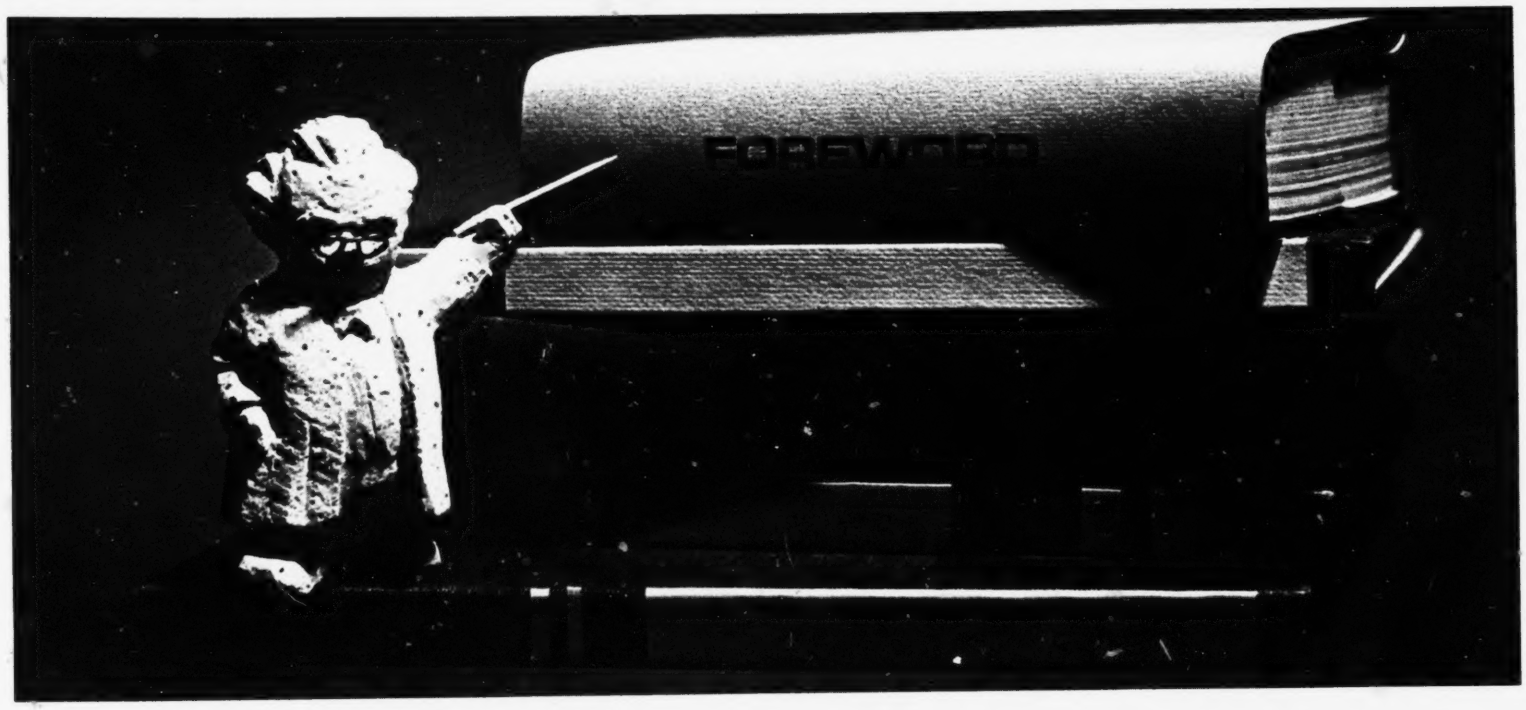
Descriptors-Community Relations, Conservation Education, Elementary Education, *Environmental Education, *Higher Education, Leisure Time, Mass Media, Natural Resources, *Outdoor Education, *Recreation, Recreational Activities, Secondary Education, Youth Programs

A special study was conducted to determine the needs and demands of the public for outdoor recreation. Increasing amounts of leisure time of the American people are being used for outdoor recreation activities. Ways in which education can help people realize optimum benefit from recreational use of the outdoor environment are discussed. Responsibilities of colleges and universities include providing education related to the natural environment, providing professional preparation in the handling of people and resources for outdoor recreation, and training teachers competent to include environmental education in their activities. Twenty-one recommendations are given for strengthening educational activities concerning outdoor recreation at various educational levels. A list of nongovernmental organizations interested in various aspects of outdoor recreations and a bibliography are appended. (JH)


EDUCATION
AND
OUTDOOR RECREATION

DEPARTMENT OF THE INTERIOR
Bureau of Outdoor Recreation
August 1968

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 - Price 75 cents



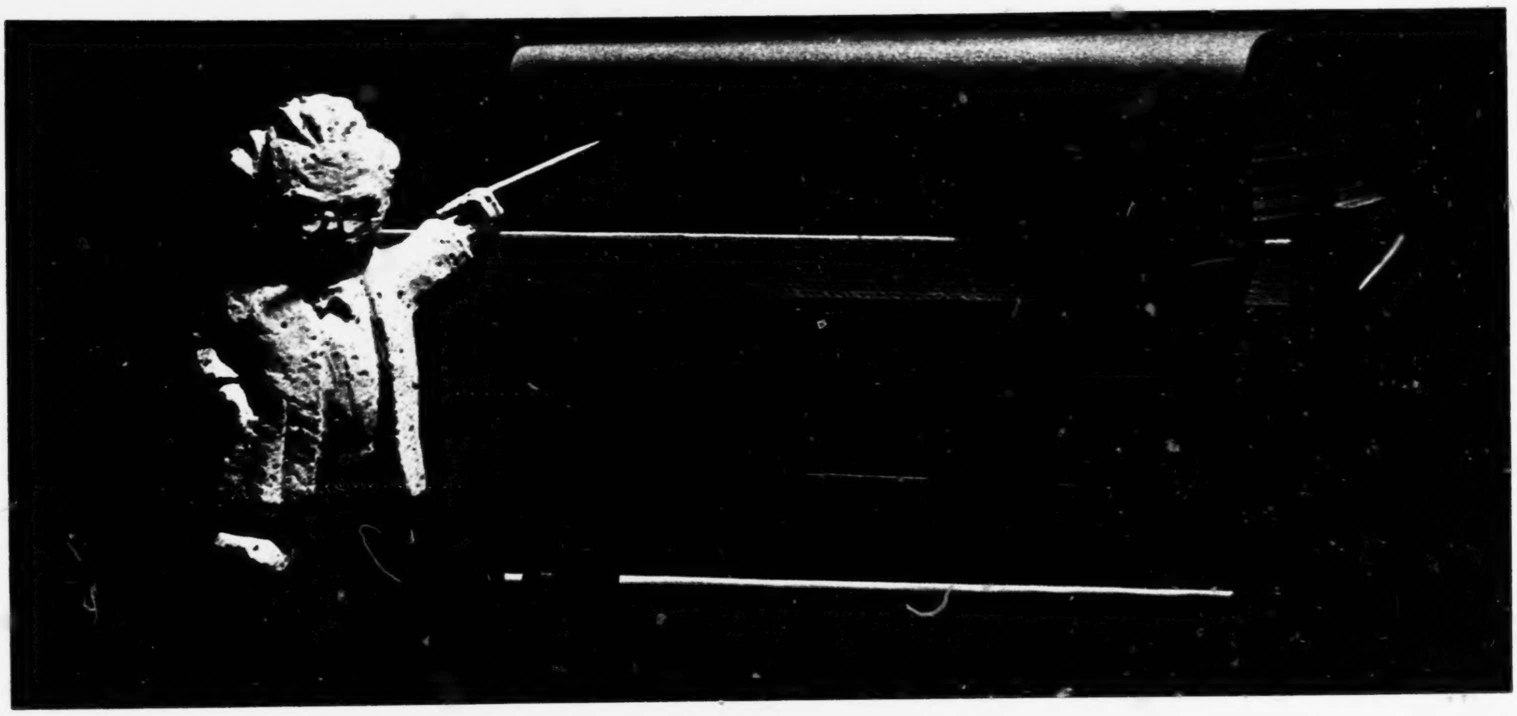
The Department of the Interior is directed by Public Law 88–29, approved May 28, 1963, to formulate and maintain a comprehensive Nationwide Outdoor Recreation Plan, taking into consideration the plans and programs of the various Federal agencies, States, and their political subdivisions. The plan is to set forth the needs and demands of the public for outdoor recreation and the current and foreseeable availability of outdoor recreation resources to meet these needs and will identify critical outdoor recreation problems and recommend solutions and desirable action to be taken at each level of government and by private interests. In carrying out its responsibilities under the law, the Bureau also cooperates with educational institutions and others in order to assist in establishing education programs and activities and to encourage public use and benefits from outdoor recreation.

As a part of this work, the Bureau conducts or contracts for special studies and assembles and disseminates the information resulting from these studies. This paper is the result of a special study carried out by Dr. Samuel T. Dana in his capacity of consultant to the Bureau of Outdoor Recreation. Dr. Dana is Dean Emeritus of the School of Natural Resources of the University of Michigan.

This work is being published at this time because we believe the information will be of immediate interest and value to those concerned with education and outdoor recreation. Neither the contents nor recommendations contained in this document necessarily reflect the views of the Bureau or the Department of the Interior.

Edward C Crafts

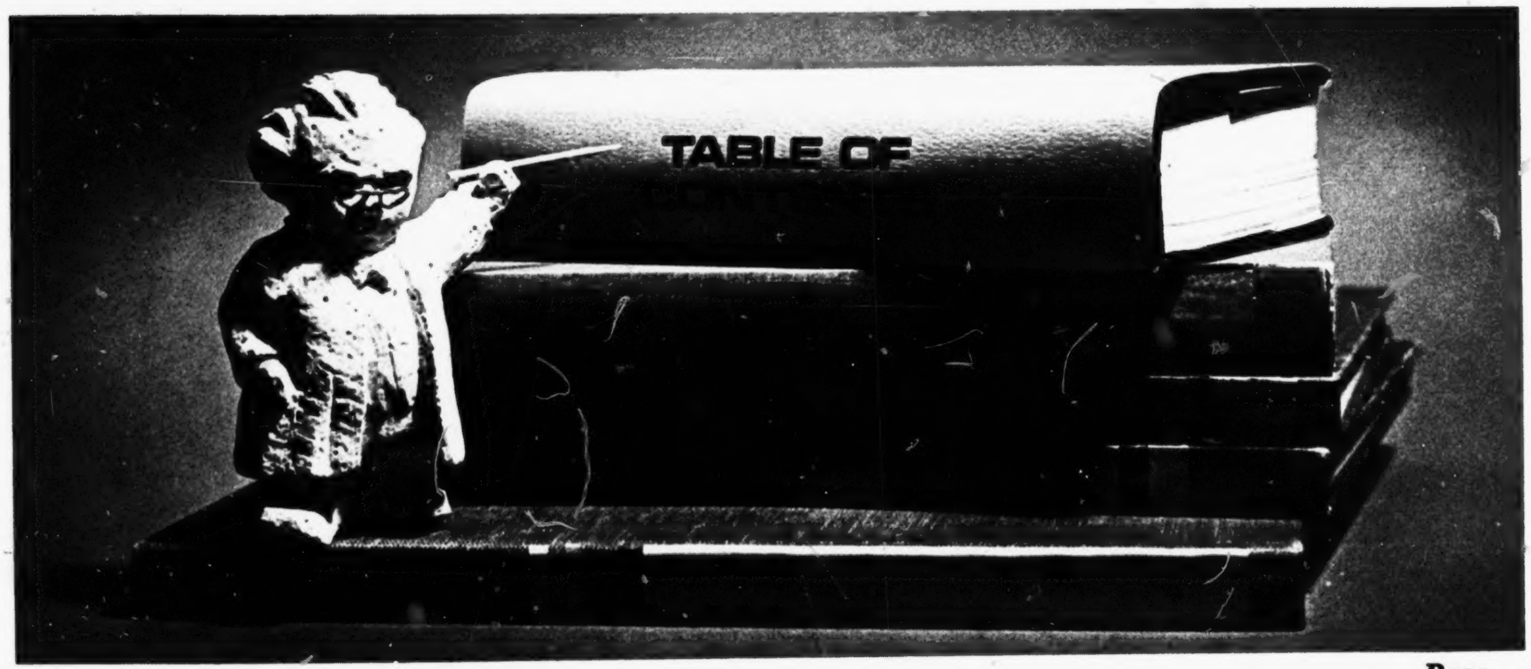
Edward C. Crafts, Director
Bureau of Outdoor Recreation
August 1968



The information on which this paper is based was obtained from printed publications, duplicated material, and informal memoranda, and from interviews and correspondence with many individuals in public agencies, educational institutions, and private organizations.

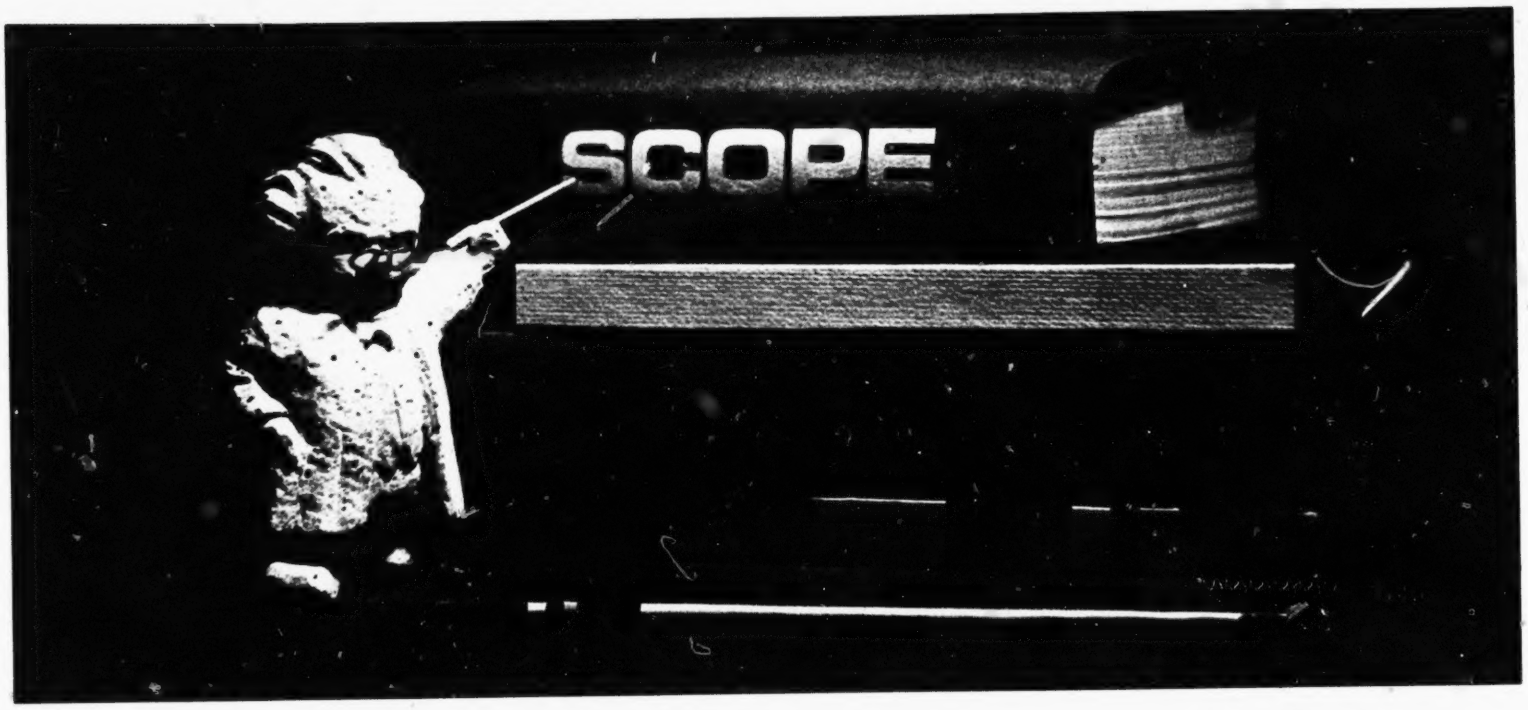
Many of these individuals—too numerous to mention by name—were particularly helpful in reviewing previous drafts of the manuscript. Grateful acknowledgment is made of their constructive criticism and other cooperation.

Samuel T. Dana
Dean Emeritus, School of
Natural Resources, University
of Michigan, Ann Arbor, Mich.



Page

Scope 1
Elementary and Secondary Schools 1
  Early Approaches 3
  Environmental Education 4
    Techniques 4
      Camping 6
    Youth Organizations 7
    Coordination 7
Colleges and Universities 11
  General Education 11
  Adult Education 12
  Professional Education 13
    Curricula 14
      American Association for Health, Physical Education, and Recreation 14
      National Recreation Education Accreditation Project 15
      Panel on Natural Resource Science 16
      Comparisons 18
    Civil Service Registers 18
    Institutions 20
      Administrative Relations 24
    Accreditation 25
    Professional Registration 27
  Teacher Education 27
  Technicians 27
  Community Relations 28
Educational and Resource Organizations 31
Public Agencies 35
Communications Media 37
Recommendations 39
  Elementary and Secondary Education 39
  Higher Education—General 40
  Higher Education—Professional 40
  Higher Education—Technical 41
  Related Fields 41
  General 41
Appendices:
  A. Partial List of National, Nongovernmental Organizations Interested in Various Aspects of Outdoor Recreation 43
  B. Selected Bibliography 44



A Paper for the Bureau of Outdoor Recreation's Nationwide Plan for Outdoor Recreation

Additional parts of this Plan will discuss, among other topics:

1. The steadily growing amount of leisure time at the disposal of the American people and the strong tendency to devote an increasingly large share of that time to outdoor recreation.

2. The wide range and importance of the values accruing to the individual and to the community from outdoor recreation.

3. Ways and means of providing opportunities and facilities for outdoor recreation adequate in scope, quantity, and quality to meet future needs.

Full implementation of the programs proposed to meet this situation will not be easy. It will require the development and application of sound policies and practices of land management on the part of both public and private owners. There must be intelligent guidance of the activities of those who engage in outdoor recreation. And the users of outdoor recreational opportunities and facilities must have the skills, motivation, attitudes, and knowledge necessary to obtain optimum benefit from the recreational experience and to leave unimpaired for others the resources that they use.

Meeting these widely diverse needs requires equally diverse means of education. These means must reach two main groups of people who can be roughly classified as producers and consumers. The former group includes those who are responsible for planning, managing, and administering recreational resources and programs. The latter includes persons of all ages and in all walks of life who participate in outdoor recreation. Before considering in detail the relations between education and recreation with respect to these main groups, it will be helpful to be explicit as to the significance of the terms, each of which has two meanings.

Recreation, according to Webster, is "a mode or means of getting diversion or refreshment"; it is also "refreshment of the strength and spirits after toil." It does not include the refreshment that many people obtain from their regular occupations. Education, according to the same authority, is "the impartation or acquisition of knowledge, skill, or discipline of character"; it is also "the totality of the information and qualities acquired through instruction and training, which further the development of an individual physically, mentally, and morally."

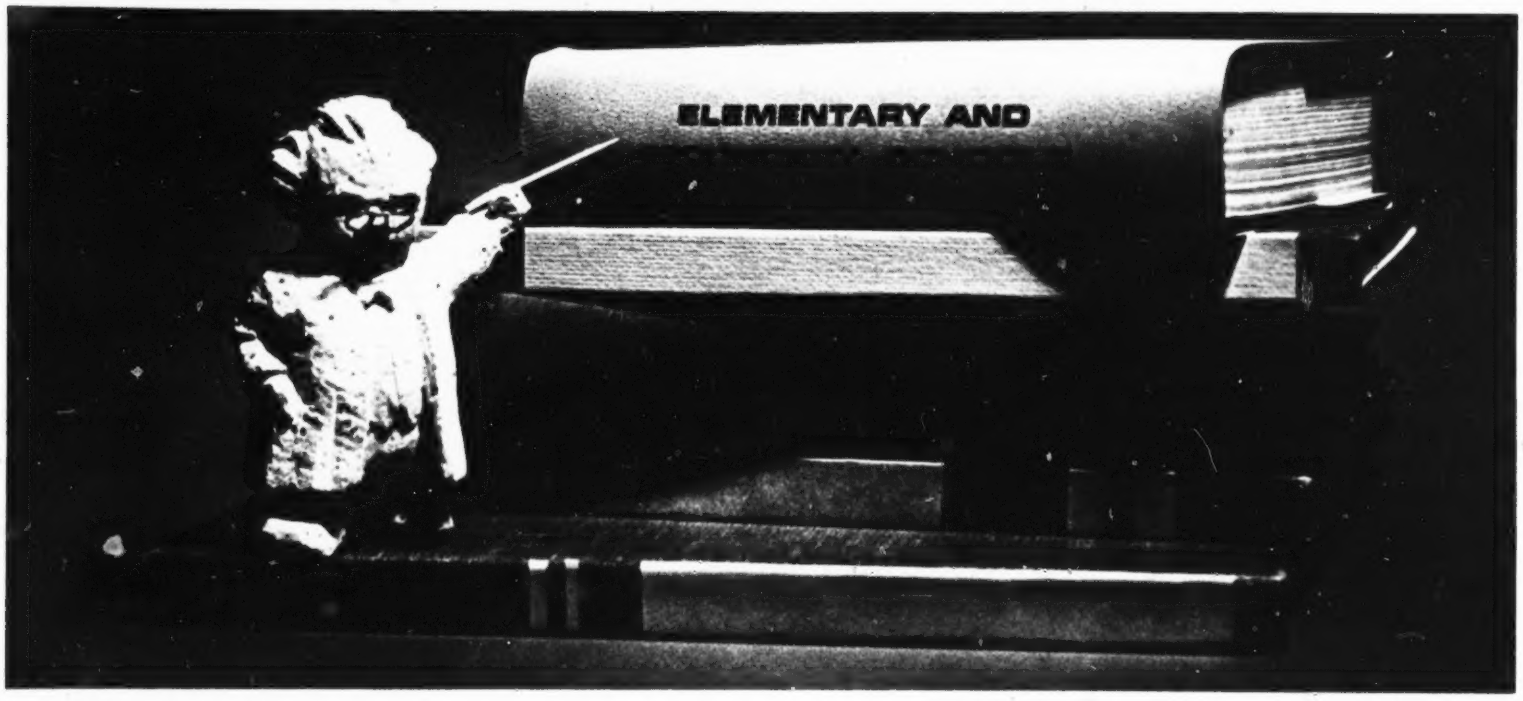
Both recreation and education can thus be either an activity or the result of that activity. With both, it is the result that gives significance to the activity.

Outdoor recreation, as an "activity," is that use of leisure time which takes place in an outdoor setting, whether rural or urban, and which leads to refreshment of body, mind, or spirit. It embraces practically everything that one does by choice out of doors —from gardening in his backyard to roughing it in undeveloped and inaccessible wilderness areas. Outdoor recreation, as a "result," is the enjoyment and the growth of the individual as a well-rounded human being that are generated by the activity.

Outdoor education, as an "activity," is the process by which knowledge, skill, and physical, mental, and spiritual well-being are imparted or acquired in the outdoors, whether in the country or the city. As a "result," it is the enhanced possession by the individual of these qualities.

More specifically, outdoor education can give people the skills and the knowledge to engage in various kinds of outdoor recreation with greater pleasure and personal development than would otherwise be possible. It can make the entire citizenry aware of the tangible and intangible values generated by outdoor recreation and of its consequent importance in the economic, social, and cultural life of the Nation. It can prepare persons who are to be leaders in planning for the allocation and use of outdoor resources for recreational purposes, in developing and managing these resources as part of an integrated program of land and water utilization, and in directing the activities of those who use them.

The interdependence of outdoor recreation and outdoor education is clear. Each can make the other more meaningful. In both fields, opportunities are almost unlimited for increasing users' appreciation of the outdoor environment and their understanding of the relation of that environment to the biological, physical, and social sciences and to the humanities. But education must precede as well as accompany the recreational experience for it to be of most value. There must be education *for* the outdoors as well as *in* the outdoors. What a person gets out of a recreational experience depends in large part on what he brings to it. These facts will be emphasized in the following discussion of the opportunities of schools and other agencies to develop the mutual relationship between education and outdoor recreation.



Ability to obtain optimum benefit from outdoor recreation in its myriad forms is not innate. It must be acquired by training and experience. Both of these are desirable for most of us throughout our lives, but it is especially important that they should be offered to children from their earliest years as a means of helping them to understand, to enjoy, to respect, and to protect the world in which they live, both now and later.

Education relating to outdoor recreation in the grade schools should recognize the obvious but sometimes overlooked fact that it is only one form of recreation, which, in turn, is one kind of use of leisure time. In this connection, it is interesting to note that 50 years ago the Commission on Reorganization of Secondary Education included as one of the seven cardinal principles of education "the development of knowledge, understandings, and skills which will enable [a person] to use his leisure in ways which are constructive and satisfying."

This principle recognizes that leisure—freedom to do what one likes—must be directed by sound attitudes into productive channels if it is not to lead to boredom or abuse. It has even greater force today, when we are faced by the urgent and difficult problem of making sure that the steadily increasing amount of leisure at the disposal of nearly everyone is used wisely from the standpoint both of the individual and the community. Yet, in a recent teacher-opinion poll conducted by the National Education Association, "worthy use of leisure" was listed by teachers throughout the country as the one of the basic principles of education which has been least implemented by the schools.

The present Plan is concerned with making outdoor recreation a major contributor to the solution of that problem—an objective in which education can play an important part from youth to old age.

Early Approaches

Education relating to outdoor recreation had its beginnings in the grade schools in connection with physical training, which became popular toward the close of the last century. The primary purpose of such training was to promote the health, strength, and physical well-being of students through calisthenics, athletics, and sports. A secondary purpose was to provide enjoyment, to make development of the body fun as well as work.

The emphasis in the secondary schools has been, and largely still is, on organized, competitive sports, such as baseball, football, and track. These provide excellent forms of outdoor recreation, but active participation in them is limited to relatively few people, whose numbers decrease with advancing age. Much more emphasis should be placed on providing education for the entire student body in outdoor sports in which they can engage throughout life. Examples are swimming, boating, skiing, fishing, hunting, archery, and camping.

Physical education should do more than enable students to safely and skillfully engage in such activities. Together with other aspects of outdoor education, it should also teach them the importance of adherence to a code of personal behavior that includes scrupulous care with fire, appropriate disposal of litter, avoidance of vandalism of all kinds, observance of the law, compliance with regulations for the use of both public and private property, respect for the environment, and unfailing concern for the safety and comfort of others. Young people should learn early that they have a responsibility for enjoying outdoor recreation in ways that will enhance rather than mar the opportunities for similar enjoyment by subsequent users.

Another relatively early development in the field of recreation was instruction in the performing arts. The ability which this gives students to appreciate as well as to perform in such activities as the drama, music, and the dance is a lasting asset. While they are mainly indoor activities, the presentation of plays and concerts in the open is becoming increasingly common and offers an attractive form of outdoor recreation, both for participants and spectators. Provision for such activities can well be made in the planning and administration of parks.

Environmental Education

The most recent aspect of outdoor recreation to attract attention in the grade schools is in connection with programs dealing with man's relation to his environment. These programs vary in scope and in name, but they all stress the character, extent, uses, and influences of natural resources. There is no general agreement as to the coverage of the several names in common use, but the broader interpretations may be summarized as follows:

"Environmental education" deals comprehensively with both human resources and natural resources and their relation to each other—in other words, with the "total environment." It adopts the meaning of environment expressed in Webster's *Dictionary of Synonyms:* "When used in reference to persons, *environment* suggests not only natural surroundings but social conditions, and implies their importance as factors in the physical, mental, and moral development of the species or the individual or as formative influences."

Environmental education aims to develop a citizenry with an understanding of the many complex problems in this broad field, and with the ability and the motivation to participate in their solution.

"Conservation education" obviously depends in its coverage on the definition of conservation, on which opinions and definitions differ widely. As one example, it has been described by Russell E. Train, president of The Conservation Foundation, as "the rational use of the physical environment to promote the highest quality of living for mankind." "Quality of living" presumably includes both tangible and intangible values of all sorts, and "rational use" is determined by economic, social, cultural, and political considerations as well as by physical and biological considerations. So interpreted, conservation also deals with the total environment.

"Outdoor education" is described thus by two university professors whose activities are in the field of outdoor recreation: "Outdoor education is a much broader term than conservation education or environmental education since it applies to all outdoor experiences that cut across the entire school curriculum." "Outdoor education would be the larger, broader term that would include field natural sciences, ecology, and social sciences. Conservation education would have a somewhat narrower connotation." Clearly these views are based on a narrower conception of environmental education and conservation education than that indicated in the preceding paragraphs.

"Resource education" is a somewhat less common and perhaps less controversial term with similar, but to many with still broader, coverage.

In the absence of any generally accepted terminology, all four terms mean different things to different people. Broadly interpreted, however, they agree in implying concern with the interrelations between man and his environment. The differences lie largely in the emphasis placed on various aspects of these relations. In schools, the emphasis will depend on the qualifications of the teachers and on the resources available for instructional purposes, but the desirability of a broad approach is clear.

Whatever name is used, programs aimed at equipping children for satisfying lives in the "total environment" are now generally lacking in grade schools and nearly everywhere else are in the experimental stage. Their widespread introduction is much to be desired. Although obviously covering a much wider area than outdoor recreation, they offer the most practical and the most effective means of providing education in that field as an important element in the good life. Such education should be based on the concept that outdoor recreation is a means not only of providing enjoyment and promoting health but of enhancing the mental, esthetic, and spiritual growth of the individual. It should also give children an understanding of outdoor recreation problems and the motivation to participate in their solutions.

Techniques

Obvious difficulties exist in introducing environmental education (conservation, outdoor, or resource education, if one prefers) into already crowded school curricula. Both theory and experience point to the wisdom of making such education an integral part of the orthodox school subjects—from kindergarten through high school. In virtually all of these subjects, whether they are in the natural sciences, the social sciences, or the humanities, opportunity exists to drive home the fact that man's life and the quality of his civilization depend on the rational use of the resources in his physical environment. Books, manuals, guides, and other materials (sometimes printed, sometimes duplicated) pointing out specific ways and means of using all subjects in the curriculum to achieve this objective are appearing in increasing numbers. In this connection, it is worth noting that environmental education and outdoor recreation are fields in which some textbook publishers are taking a growing and constructive interest.

A second essential for effective environmental education is that it takes place both indoors and outdoors. In the classroom, the student discovers what is meant by "environment" and why it is important to man. He learns what are the major characteristics of different kinds of outdoor environment (both rural and urban); what are the relations between the components of the environment; what tangible and intangible values natural resources offer to man; what have been the kinds and results of past usage; what are the basic principles and practices underlying their management; what are the proper roles of governmental agencies at different levels in the ownership of natural resources, in regulating the activities of private owners, and in cooperating with them.

Outdoors, the student comes into firsthand contact with what he has been learning indoors. In the country, his studies deal largely with agricultural, forest, and range (pasture) lands, with wildlife, with water resources, and with roads and highways—including in each case the opportunities for outdoor recreation offered by the resource.

In urban areas, his studies deal with such matters as the character and location of residential, industrial, commercial, and recreational areas (parks, playgrounds, and athletic fields); with preservation of open spaces and of natural environments, such as woods, streams, marshes, and swamps; with the development of waterfronts; with air, water, and soil pollution; with the occurrence of slums and urban renewal; and with the application of zoning as a means of controlling land use.

Education for the outdoors and education in the outdoors thus complement each other. Both are essential in any well-rounded program of environmental education.

Such education will naturally increase in scope and in difficulty with advancing grades. Kindergarteners, for example, may learn the identity of the common plants and animals, the need for care with fire, and the importance of avoiding littering. Fifth graders may learn about the relations of plants and animals to their environment and to each other, about their association into communities, and about the value of these communities to man for economic and recreational purposes.

Ninth graders may learn about the methods of managing natural resources for these various purposes, about the potential conflicts between them (including the difficulty of comparing tangible and intangible values), and about the contributions of natural resources through their products and services to the economic, social, and cultural life of the community. Twelfth graders may study these subjects in greater depth and may consider arguments for and against the adoption of specific policies dealing with such matters as overall watershed management, control of land use by zoning, control of air and water pollution, regulation by public agencies of the management of private lands, and ways and means of providing adequate opportunities for outdoor recreation for all.

The topics suggested are illustrative only. Other approaches may be preferable, depending on the location of the school, the basic curriculum, and the competence of the teachers in the various subjects. However it is organized and taught, outdoor recreation should be an important part of the program.

Another possibility is to focus attention on some specific resource, such as water, or on the complex of resources in a definite geographic area, such as a river valley or a county. The cumulative effect of this approach, which is particularly appropriate for the junior and senior high schools, might be substantial.

Consideration should also be given to the desirability of offering a separate course dealing with the whole broad field of man's relation to his environment. Such a course would help to unify the facts and concepts concerning the environment and its use obtained in connection with geography, biology, civics, economics, and other subjects. Required courses of this sort in "conservation" have not been looked on with favor by many educators, but limited experience with elective courses has shown that there may be a useful place for them in the upper grades. It is essential that careful thought be given to their content, that they be handled by teachers who are competent to present the social, economic, political, and cultural aspects of man's relation to his total environment, and that the techniques of management should not be overemphasized.

It should be emphasized that such competence is equally essential in making environmental education an integral part of the orthodox grade school subjects. This is a particularly difficult task for which few teachers are now adequately prepared. The main responsibility for improving the situation lies with the colleges and universities, and particularly with the schools of education, where grade school teachers receive their training.

Much can also be done by the schools themselves in the way of in-service training. Seminars, workshops, and special lectures constitute effective means of providing at least in part the needed information. Teachers can be encouraged to take summer work in the field at institutions of higher learning where suitable courses are offered and to enroll in relevant extension and correspondence courses. Local residents, and especially members of conservation organizations, are often competent and available to assist schools in providing in-service training.

Camping

Camping is a form of education in the outdoors that deserves special consideration. While it is an experience of value for persons of all ages, it is emphasized here because it should constitute an integral part of the educational process for as many children as possible during their grade school years while they are at a particularly receptive and impressionable age.

The American Camping Association points out that "in camping conservation comes to life. It is not a subject taught but an attitude pervading the entire camp. There is no better place in which to develop in children those attitudes, knowledges, and skills which make them responsible citizens and good stewards of the land, wise in the ways of protecting our nation's resources. What they learn in camp is not merely theoretical. They not only observe how living things depend upon the environment but with their own hands can help to preserve and improve that environment. They cannot easily forget the conservation lessons they learned from planting trees or seeding a ditch bank." All of these activities are enjoyable as well as instructive. Camping is conspicuously an experience in which education and outdoor recreation go hand in hand.

During the last 20 years, there has been a distinct and desirable change in the character of camp programs. While the teaching of skills in outdoor living and outdoor sports is not neglected, much greater relative emphasis is now placed on outdoor learnings that can enrich indoor education in those aspects of the biological, physical, and social sciences that relate to an understanding of the outdoor environment and its significance to man. The change in emphasis is reflected in the terminology now in common use, which refers to outdoor education in a camp setting rather than merely to school camping.

The advantages of camping as an educational process have been so thoroughly demonstrated that the acquisition and operation of camps by school districts are often desirable. If necessary, such action should be authorized by law, as has been done in several States. Camping facilities are especially important in urban areas because of the frequent lack of other opportunities for city children to participate in outdoor education in relatively natural and unpolluted surroundings. With the cost of land rising steadily and the availability of sites adequate in size and variety of resources decreasing steadily, the early acquisition of suitable areas is imperative. Arrangements with nearby owners for the occasional use of their lands for educational purposes in connection with the operation of the school camp may also be desirable.

Whether or not outdoor education in a camp setting is provided by the public schools, widespread use should be made of the many privately owned camps for young people and those sponsored by youth organizations. It is estimated that between five and a half and six million children attend organized camps in the United States each year, and the number is steadily growing. Probably about half of the child population of the country go to organized camps at least once during their school years. The number should be larger.

Unfortunately, the full potentialities of camps for resource education, although often well advertised, are not always realized. Stress is apt to be laid on sports, on arts and crafts, on fellowship, and sometimes on nature study, which is usually confined to the identification of plants and animals. Much more attention should be paid to other components of the natural environment, with emphasis on their values, uses, and management. That progress in this direction is being made is indicated by the high standards for camp accreditation adopted by the American Camping Association, one of whose objectives is "to extend the recreational and educational benefits of out-of-doors living." Candidates for accreditation must provide information on the extent to which their camp programs make use of natural resources and relate the camper to the environment in a meaningful way in attaining this objective.

Family camping offers an excellent opportunity to combine outdoor recreation with the strengthening of family ties and the much-needed promotion of understanding between the older and the younger generations. Its growing popularity is attested by the estimate of the Family Camping Federation that more than 16 million persons over 12 years of age went family camping in 1967. During that year, the federation started an accreditation program of 700 private campgrounds in 30 States, with plans to inspect an additional 1,000 in 1968.

In addition to their other services, school campsites can often be used to advantage as field laboratories for study and experimentation possible only in the outdoors. Such use has recreational as well as educational value, both because it is inherently stimulating and therefore enjoyable and because it gives the student a deeper understanding of the outdoor environment which will make future contacts with it more meaningful.

Youth Organizations

Second only to the schools in their potential for promoting outdoor recreation education among young people in the K-to-12 age class are the many youth organizations, with an estimated membership of some 20 million boys and girls. Among these are the Boy Scouts of America, the Girl Scouts of the United States of America, the Camp Fire Girls, the Y. M. C. A., the Y. W. C. A., 4-H Clubs, and Future Farmers of America. In addition to the educational opportunities offered at the camps operated by these organizations, there are many other ways in which they can further environmental education. Of major importance is the undertaking of specific projects that involve the personal participation of their members in the development, maintenance, or restoration of the many economic and recreational values offered by natural resources.

The tremendous interest of young people in the wise use of their environment is evidenced by the enthusiasm with which they planned, attended, and reacted to the National Youth Conference on Natural Beauty and Conservation held at Washington, D. C., in 1966. The number and variety of projects which they promptly undertook under their own initiative throughout the country are amazing. Among them are the renovation and beautification of school grounds, playgrounds, and parks; the clearing up of debris along streams, lakes, and highways; and the planting of trees and shrubs for the production of timber, the improvement of wildlife habitat, and the control of soil erosion.

The young people have also carried on educational efforts of their own with parents, school teachers, newspaper editors, public officials, service clubs, and other community organizations. Self-education has been an essential prerequisite in both these action and publicity campaigns.

Most of these activities have been carried on by ad hoc groups organized for the purpose. To what extent these will become permanent remains to be seen. It is clear, however, that in both educational and action programs aimed at maintaining a healthy environment for man's pleasure and profit there is room not only for the large national youth organizations but also for the small, less formal local groups. Under skillful guidance, both can provide a most effective supplement to the educational efforts of the schools.

Coordination

The suggested techniques for environmental education have two distinct advantages. First, they provide opportunities to encourage personal development of the student as an individual rather than as a member of an organized group. Second, they emphasize the inter-disciplinary approach to resource problems in general and to outdoor recreation in particular.

In order to make the most of these opportunities, and particularly the latter, there must be assurance that the potential integration of the program with the rest of the school's instructional activities actually materializes. An effective way of attaining this objective is through the employment of a consultant who will assist the faculty in developing the program and in supervising its implementation. He should also play an active part in obtaining the cooperation of local groups, agencies, and others, such as parent-teacher organizations, Izaak Walton League chapters, and other conservation organizations, city recreation, health, and highway departments, chambers of commerce, manufacturers, and landowners.

Coordinators of this sort (generally known as "conservation consultants") may serve an entire school district or a single large school. They are now employed by several cities in Michigan and

Wisconsin, and several cities in other parts of the country are in the process of employing them. Their widespread use would help to establish and maintain programs of resource education on a sound basis.

Coordination and leadership at the State level are also important. Consultants located in State departments of education can do much to stimulate action by local school districts and to assist in developing resource programs along sound lines. Among other services, they can circulate information as to the strong and weak points in programs already in existence. In some States, a development of this sort may have to be preceded by action to convince the department of education that environmental education is a subject of sufficient importance not only to justify but to require its participation both in this specific way and in other directions. State departments of conservation or natural resources can also participate effectively in educational activities along these lines.

Similarly, the Federal Government should play a much larger role than it is now doing in providing information and services to the States and to local school systems. The Office of Education in the Department of Health, Education, and Welfare, in spite of its widespread ramifications, has been relatively inactive in the field of environmental education. Its chief activity with respect to grade schools has been in the administration of Title III of the Elementary and Secondary Education Act of 1965, which authorizes grants for supplementary centers and services. As of March 1, 1968, more than 100 projects involving outdoor education in one way or another had been approved in 35 States, with a total cost of about $7,600,000. A few examples of grants illustrating the kinds of projects for which funds are available are as follows:

To the Board of Education, Newton, New Jersey, for establishment of an outdoor education program offering recreation, field studies, camping, conservation education, in-service education, and research opportunities ($353,500).

To Board of Education of the city of New York for offering a year-round program of nature study and conservation to students from public, private, and parochial schools in the New York metropolitan area, including classroom and field instruction on the need for conservation of natural resources and the interrelationship between these resources and planned community growth ($96,730).

To Multnomah County Intermediate Education Board, Portland, Oregon, to develop and conduct an outdoor school for sixth graders in the public and private schools of the Portland metropolitan area which will stress the natural environment and its conservation and the child's relationship to both (two grants totaling $101,474).

To Taylor County Board of Public Instruction, Perry, Florida, for establishment of an outdoor education center for instructing students and teachers of six counties on conservation and outdoor recreation and on the interrelationships among natural resources, human beings, cultural patterns and characteristics, and societal resources (two grants totaling $127,166).

Competent inspection of the conduct of all Title III projects is essential to make sure that they are achieving their objectives. If well handled, the program has great potentialities for promoting environmental education in the elementary and secondary schools.

A well-staffed unit in the Office of Education could go far in providing the national leadership which is needed but now lacking. Such a unit could serve as a clearing house for information, conduct research of its own and support research by others, assist State boards of education and local school systems in planning and initiating programs in environmental education, and cooperate with colleges and universities in strengthening their preparation of teachers for service in this field. An advisory committee broadly representative of the various interests involved would be helpful to the unit in directing its activities along the most productive lines.

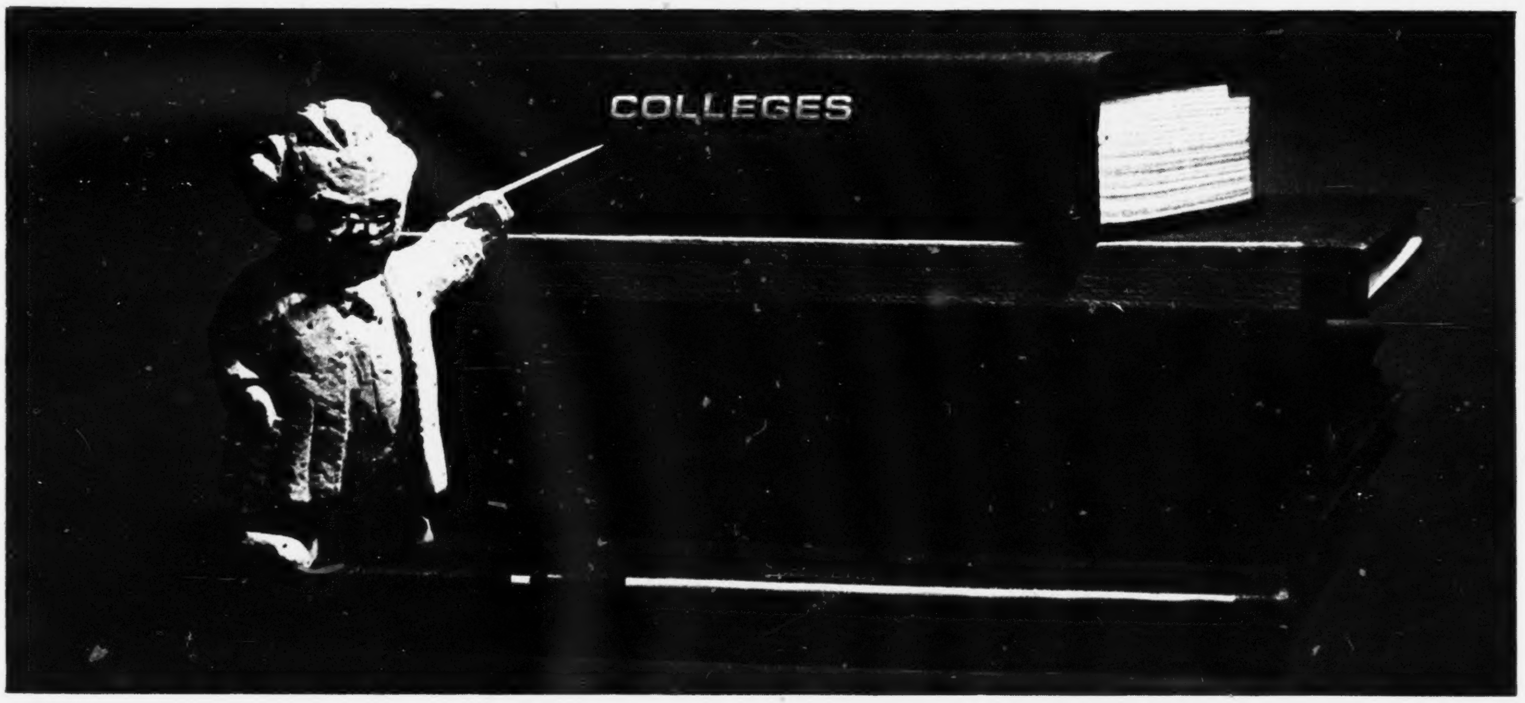
These suggestions are in line with those made by the Natural Resources Council of America, which has told the secretary of the Department of Health, Education, and Welfare that "the growth patterns and changes now taking place in our country underscore the need for additional leadership and assistance in conservation education on the part of your Department's Office of Education." The Council urged that that Office have the assistance of a National Advisory Committee on Conservation Education, that it conduct in-depth research in conservation education at its regional education research laboratories, and that it assist State departments in providing local schools with expert counsel and guidance on integration of natural resource conservation concepts into all areas of the curriculum.

The recent designation of a staff member to coordinate and strengthen the activities of the Office of Education which deal with environmental education is an encouraging step in these directions. The assignment is designed to provide greater Federal participation in this field, including cooperation with national organizations and with State and local agencies in developing improved education on the relationship between man and his environment.

Pending further moves by the Office of Education, there is urgent need for a comprehensive study of the philosophies, organizational setups, curricula, facilities, and related factors which can best make environmental education the vital force that it should be in the grade schools of the country. Such a study could be made by a task force (with adequate staff) created or sponsored by a private organization, such as a foundation or a university. It would be invaluable in providing the necessary background for development of well-conceived and coordinated policies and programs by the Office of Education, by State departments of education, and by the schools.

Another possibility would be to cover the same ground as part of a much broader study of all aspects of environmental education—both general and professional—aimed at assuring "the rational use of the physical environment to promote the highest quality of living for mankind." An undertaking of this magnitude might well be handled by an Environmental Education Review Commission established by the Congress in line with the precedent set by the Outdoor Recreation Resources Review Commission and the Public Land Law Review Commission. The subject is of sufficient national concern to warrant consideration at the highest level. Among its many other responsibilities, a commission of this sort would be most helpful in refining and elaborating the suggestions concerning environmental education made in this Plan and in integrating activities in this field with other aspects of education dealing with natural resources and the out-of-doors.

One result of the activities of such a commission might be the establishment of a National Environmental Education Center, in much the same way that the recommendations of the Outdoor Recreation Resources Review Commission led to the establishment of the Bureau of Outdoor Recreation. A center of this sort, which has already been proposed by Secretary Udall and others, might well be supplemented by regional and local environmental centers. It should cover a much broader field than that suggested above for the Office of Education and would have the added prestige conferred by Congressional recognition. It would have such educational, investigative, advisory, and supervisory functions as were delegated to it by Congress and would work in close cooperation with educational institutions at all levels and with public and private agencies and organizations interested in environmental education. Administratively, it might be located in the Office of Education or in the Bureau of Outdoor Recreation or given bureau status. Whatever the organizational setup, there is clear need for strong Federal leadership in environmental education.



Colleges and universities have a clear-cut responsibility for providing education relating to the natural environment, including its use for outdoor recreation, for the bulk of their student body and for as many adults as practicable. A limited number with adequate facilities should also provide professional preparation for students looking forward to becoming leaders in the handling of people or resources involved in outdoor recreation. A third important function is the training of teachers competent to include environmental education in their activities. Improvements in all of these directions are definitely in order.

General Education

The philosophy and the procedure recommended for handling the subject of outdoor recreation in the grade schools apply equally well to colleges and universities but, of course, at a higher level. In essence, they propose to treat outdoor recreation as an important aspect of "rational use of the physical environment," consideration of which should, in turn, constitute an integral part of courses dealing with the basic disciplines and their application. A few examples will illustrate some of the possibilities.

Biology, for instance, can have a paramount influence in arousing an interest in natural resources and their uses in innumerable ways. It can acquaint the student with the wide variety of plants and animals; with their characteristics and values; and with the dangers to which they are exposed (including the possibility of extermination) through changes in the environment, excessive and unwise use, pollution, and the indiscriminate use of pesticides. Genetics can be applied to the development of improved strains of pine, deer, trout, and other plants and animals, with consequent increases in the quantity and quality of yields. Stress can be laid on ecology as the scientific basis for the practice of silviculture and wildlife management. Chemistry can go hand in hand with biology in explaining the relations between soils, fertilizers, and plant growth; in analyzing proposals for the reduction or elimination of air, soil, and water pollution; and in evaluating the threat that pesticides present not only to pests but to other forms of life, including man.

In the social sciences, geography deals with the characteristics and distribution of different kinds of lands and with their suitability for various purposes, such as urban development, agriculture, and natural resources management, in all of which outdoor recreation may play a prominent part. Economics provides the tools for measuring and comparing the costs and returns from various methods of managing natural resources. Application of the principles of political science can be illustrated effectively in connection with the development of public policies and legislation relating to such matters as landownership, zoning, protection of migratory birds, control of pollution, and the allocation of resources among social needs. Sociology throws light on the subjects of group relations and social interactions and on the role of social institutions in the determination and realization of outdoor recreation values. Invaluable guidance in the adoption of sound policies and programs for the handling of natural resources comes from knowledge of the history of their treatment and its results.

Literature can condition one for keener appreciation of the outdoors. The writings of naturalists, such as John Muir, John Burroughs, and Bradford Torrey, and of poets, such as Wordsworth, Tennyson, and Frost, can enhance one's appreciation of natural beauty and his enjoyment of nature, both in prospect and in retrospect. Such humanistic fields as art, music, and the drama also offer opportunities for giving students an appreciation of the environment in which they live and of the relaxation, pleasure, and inspiration that may be obtained from its use for recreational purposes.

Teachers can, and should, through lectures, through reading, field, and laboratory assignments, and through class discussions, impress upon their students the fact that all fields of knowledge have some relation to the physical and social environment in which they live. Students with imagination and curiosity can make this discovery for themselves, but even they will find some guidance a help in broadening their horizons. However the student's eyes are opened, the result will be to enhance his sense of responsibility for the wise use of natural resources and to make their use for recreational purposes a more enjoyable experience.

There is also a place in colleges and universities for nonprofessional courses dealing specifically with man's relation to his environment, including the economic and social importance, uses, and management of natural resources. They should be offered much more widely than is now the case. Institutions of higher learning have a responsibility to give their students the opportunity to become acquainted with the values associated with the wise use of the resources on which their very existence and the level of their culture depend. Outdoor recreation in appropriate and beautiful surroundings is plainly an important element in that culture.

A good example of an attempt to reach students generally is an all-college course entitled "Environmental Resource Management Principles and Problems," first offered at the University of Wisconsin in the fall of 1967 under the purview of an interdisciplinary committee. The announcement of the course states that "it will meet the statutory requirements for a background course in conservation for prospective teachers, will fill the need for a generalized survey course for professional students in a variety of resource management fields, and will also serve as a cultural introductory course for liberal arts majors. . . . [it] proposes to (a) inform students of the facts about natural resources in a technological age, (b) encourage students to be concerned about the husbandry of resources, and (c) lay the basis for intelligent individual attitudes and constructive collective decisions." This sort of approach to developing environmental literacy in the college population as a whole is greatly needed throughout the system of higher education.

At both undergraduate and graduate levels, seminars in such fields as natural resources economics, natural resources management, natural resources administration, and regional planning can serve a useful purpose in promoting the interdisciplinary understanding and cooperation that are so necessary in an area with such wide ramifications. A course offered at Vassar College which is centered on man's relation to his environment in the Mid-Hudson River Valley affords a good example of the interdisciplinary approach.

Student organizations which stress outdoor recreational activities, such as hiking, skiing, boating, and camping, can provide education as well as enjoyment for their members. To do so, they must inculcate an interest in and an appreciation of the ecological, esthetic, economic, and social aspects of the natural resources where the physical activities of the users take place.

Adult Education

The education of adults is seldom feasible through their enrollment in the regular curricula of colleges and universities. The facilities of these institutions are, however, available and are being increasingly used for adult education. Evening courses, seminars, and workshops, which may or may not carry academic credit, lecture series, and conferences provide effective means of reaching local residents. Similar services can be offered through university branches and extension centers to people at greater distances, who can also be reached by Statewide extension courses and by correspondence courses.

With respect to outdoor recreation, the objectives with adults are the same as with youth—to provide the skills, knowledge, and insights necessary for obtaining relaxation and growth from recreation in the outdoors. Arousing an interest in and a concern for environmental quality is of major importance.

An additional aim is to provide the understanding and the motivation needed for active participation in the development of recreational policies (including legislation) and programs. This aim is particularly important because it is today's adults whose influence on the legislative and executive branches of government largely determines the content of current programs of action and the efficiency of their administration. If that influence is to be constructive, its wielders must be well informed.

Emphasis should be placed on specific problems and issues from the local to the national level and on ways in which individuals can be helpful in finding solutions and in furthering their adoption. As a means of assuring a down-to-earth approach, the University of Michigan has developed an independent study course by correspondence entitled "The Citizen and Environmental Conservation: Opportunities for Effective Action." The aim of the course is to inform participants of the many complex problems involved in the handling of the environment, to arouse and intensify their concern with these problems, and to increase their effectiveness in participating in their solution. Participants will be asked to make a series of observations and investigations in their own community which will bring them into personal contact with such resource problems as urban blight, lack of adequate facilities for outdoor recreation, water needs, air and water pollution, and indiscriminate use of pesticides. As a final activity, each participant will choose a specific community resource problem and will work out a plan aimed at its solution.

In addition to the extension services now maintained by most universities, the cooperative extension services of the Federal Government and the land grant colleges exert a powerful educational influence. Although their activities were originally confined largely to the field of agriculture, they have now been expanded to include service to urban as well as to rural people. Increasing attention has been paid during the last 20 years to recreational activities involving the arts, crafts, and sports and more recently to outdoor recreation dependent on the natural environment.

Evidence of this latter interest is provided by a National Workshop on Cooperative Extension's Role in Outdoor Recreation that was held at the University of Georgia from January 30 to February 2, 1967. As one speaker pointed out, "One of our functions is interpreting and fostering an appreciation of the natural environment, as it pertains to the constructive use of leisure time." Twenty States now have 28 "recreation specialists," and 15 men with that title are employed by the Federal Extension Service in Washington. One of the latter described the involvement of the Cooperative Extension Services in recreation as falling into the four general program areas of touristry, recreation enterprises, community services and facilities, and cultural arts. More attention might well be paid to outdoor recreation as an important aspect of the use and management of natural resources.

Professional Education

Another responsibility of colleges and universities in the field of recreation is to train persons who will serve as leaders of those engaged in recreational activities and as planners, interpreters, managers, and administrators of the resources used for recreational purposes. Individuals competent to handle these tasks are commonly known as "professionals."

Whether the term is strictly accurate depends on what constitutes a profession, there presently being wide differences of opinion. There seems to be reasonably general agreement that a profession is the practice of an art, based on knowledge and skill in a specific field acquired through education at the college or university level, and conducted in accordance with high standards of performance, service, and ethics.

Two other commonly recognized earmarks of a profession are the organization by its members of an association through which they act collectively to maintain and improve its service, and the official accreditation of collegiate programs for the preparation of its practitioners (to be discussed later). A writer in the *Journal* of the American Association for Health, Physical Education, and Recreation, in April 1960, expressed as follows the view held by most of its practitioners as to the status of recreation as a profession:

> *"Recreation is now a profession and it is, in fact, emerging as one of the more important professional groups. The demand for competent leadership will increase as programs increase. Our colleges face a challenge in coming years, because sound preparation of leaders and professionals is a must in this groundswell of growth."*

In order to avoid confusion, it may be well to note that when "recreation" is referred to as a profession the term is used as a conveniently brief synonym for "recreational services." Recreation in the usual sense of a leisure-time activity or the refreshment resulting from that activity is not a profession. It is the servicing of the activity with understanding, competence, and skill which constitutes the profession.

Curricula

Ordinarily a profession is regarded as covering a rather broad field, within which there may be considerable specialization. Engineering, for example, is a profession which includes such branches as civil engineering, chemical engineering, and electrical engineering. Medicine includes surgery, neurology, pediatrics, and other branches. Recreation similarly has numerous branches, among which are school recreation, municipal recreation, industrial recreation, therapeutic recreation, and outdoor recreation.

This situation means that each profession should have a body of common knowledge—a core content —to which should be added material pertaining to some more specialized branch. Curricula should be devised so as to provide the combination of rigidity and flexibility required by this approach. Their coverage in the field of recreation, including outdoor recreation, has recently been the subject of intensive study.

Professional education in outdoor recreation has developed along two distinct but gradually converging lines. It was originally associated with physical education, which dealt primarily with body development and sports. These activities obviously promoted health and provided recreation of a sort, often out of doors, for the participants. It was a short step to recognizing the arts and crafts as other forms of recreation for which professional leadership should be provided. Gradually, departments of physical education in the colleges evolved into departments of physical education and health, and then into departments of physical education, health, and recreation, but with outdoor recreation receiving relatively little attention except for games, sports, and camping.

The values resulting from recreational use of the natural environment were first recognized in any substantial way by the National Recreation Association and other private organizations rather than by the educational institutions. They received strong, but not very lasting, emphasis at the National Conference on Outdoor Recreation called by President Coolidge in 1924. Colleges were slow to stress the preparation of leaders for this type of recreation, which was apparently not generally regarded as needing professional direction.

Within the last two decades, this attitude has gradually changed. More people with more leisure time and more money at their disposal, increasing urbanization, growing uglification of both rural and urban landscapes, and mounting pressures on limited resources of land and water for a wide variety of uses that are often in competition with each other—all have combined to create new and difficult problems in the field of outdoor recreation. They have made clear the need not only for sound public policies but also for professional skill in planning the allocation of resources to their best uses, in integrating outdoor recreation with other uses, in managing recreational resources efficiently, and in directing constructively the activities of those who use them.

As a result, many departments of physical education, health, and recreation have broadened their scope, and new departments have developed to deal almost entirely with recreation. The change in emphasis has led in at least four schools to use of the name Department of Recreation and Park Administration.

At the same time, a similar change has been taking place in schools of forestry and natural resources. These had long recognized the value of wild lands for recreational use, but had regarded such use as one of relatively minor importance which needed little direction other than to prevent its interference with uses such as timber production and utilization. Today, numerous schools whose primary concern is the management of natural resources offer professional instruction in outdoor recreation either as separate curricula or in connection with other curricula—and the number is growing.

American Association for Health, Physical Education, and Recreation.

The new national recognition of recreation in general and outdoor recreation in particular as among the most constructive uses of leisure time has led to several independent studies of the content and structure of curricula needed to meet modern requirements in these fields. One of the first of these, in 1962, was a National Conference on Professional Preparation in Health Education, Physical Education, and Recreation Education, held under the auspices of the American Association for Health, Physical Education, and Recreation (AAHPER).

The conference emphasized the importance of a strong background of general education, which it felt should comprise 50 percent of a 4-year undergraduate program. It considered 5 years essential for adequate professional preparation, with the understanding that the fifth year might be completed prior to service or after a period of experience. It recognized that the programs should emphasize the professional obligations and responsibilities of a professional person. It concluded that the profession itself should determine the nature of professional education and should establish the standards which will ensure the competency of practitioners.

With respect to outdoor recreation, the conference recognized two specialized program areas—recreation and parks administration, and camping and outdoor recreation. The scope of the proposed coverage for each of these fields was indicated in some detail, but no attempt was made to prescribe specific courses.

Five years later (1967), the same association held a Conference on Graduate Education in Health Education, Physical Education, Recreation Education, Safety Education, and Dance. This conference concluded that "three principal areas of emphasis are observable in graduate level recreation education: recreation programming, administration of recreation services, and natural resources management for recreation." The competencies regarded as essential for the latter area included an understanding of the relationships between natural resources and of the principles involved in their management, but not the technical ability to direct their actual management for other purposes than recreation.

The conference regarded the master's degree as "usually an extension of the professional education carried on during the upper division college years." It felt that at the doctoral level there is a place for both the degree of Doctor of Philosophy and a professional doctorate.

National Recreation Education Accreditation Project.

In 1963, the Federation of National Professional Organizations for Recreation (now the Federation of National Organizations for Recreation)* agreed to sponsor a National Recreation Education Accreditation Project. Among the several tasks assigned to it, the committee in charge of the project (NREACP) has devoted much attention to curricula. It states that the purpose of the specific curriculum which it proposes "is to prepare persons to live and to help others to live a more enriched life, to serve the community more effectively, and to assure recreation leadership in a variety of settings. The need for recreation and park personnel with a sound recreation philosophy demands a program of professional preparation apart from that of other disciplines though related to them in some of its aspects."

The committee divides the proposed curriculum into three parts—general education, professional education, and professional emphasis. It recommends that half of the total number of hours in the curriculum be devoted to *general education* for all students. Some of the subjects that it feels should be covered are indicated in considerable detail.

Professional education, again for all students in any aspect of recreation, would have a broad coverage. It should include:

> Knowledge of the philosophy and history of the recreation and park movements.
>
> Understanding of community organization.
>
> Knowledge of the development, structure, purpose, functions, and interrelationships of groups or agencies which render recreation and park services.
>
> Understanding of the dynamics of leadership.
>
> Understanding of the several fields of recreation, with special reference to programming and other means of attaining their objectives.
>
> Understanding of administrative practices, including their legal, financial, personnel, and public relations aspects.
>
> Ability to relate theory to practice through a progression of laboratory and field experiences.
>
> Ability to function as a student practitioner in a field agency.

Professional emphasis, as envisioned by the committee, permits the student to elect courses in his particular field of interest. It is divided into three categories—recreation program supervision, recreation and park administration, and recreation resources planning.

In the first of these categories, students interested in camping and outdoor recreation are urged to obtain a general knowledge and understanding of the natural environment. Course work should include study of field ecology and conservation, as well as the various facets of natural science, such as general

---

** The Federation consists of the American Association for Health, Physical Education, and Recreation, the American Camping Association, the Association of College Unions—International, the Athletic Institute, the National Association of Social Workers, the National Industrial Recreation Association, the National Recreation and Park Association, the National Rifle Association of America, the Society of State Directors of Health, Physical Education, and Recreation, and the Sports Foundation, Inc. The absence of any organization interested primarily in the management and conservation of natural resources is noticeable.*

biology, botany, zoology, and horticulture.

The proposed emphasis in recreation and park administration focuses upon competencies needed for initial supervisory and administrative responsibility leading to top executive positions in recreation and park systems. Students should include study in economics and government in greater depth than is provided in introductory courses; and they should acquire substantial knowledge of horticulture, floriculture, landscape architecture, agronomy, turf management, and engineering graphics. They should also acquire an understanding of the principles and procedures involved in planning for parks and recreation, including land acquisition and utilization, and in the maintenance of park and recreation areas, facilities, and equipment.

The category of recreation resources planning focuses upon the competencies needed for resource planning and supervision. These are regarded by the committee as covering a wide range, including:

> Knowledge concerning the identification, acquisition and allocation, and development of land and water resources for recreation purposes.
>
> Knowledge of the geography and geology of the United States.
>
> Understanding of the use and interpretation of statistical techniques as related to planning.
>
> Knowledge of ecology, including conservation and the relation of man to his environment.
>
> An understanding of natural resources derived from study in the areas of water, wildlife, forestry, and range.
>
> Knowledge of horticulture, floriculture, turf management, and agronomy.
>
> A thorough understanding of administrative functions, such as accounting, basic business administration, research methodology, and community development.
>
> An understanding of the natural and manmade elements of the landscape, encompassing the entire scope of landscape planning.
>
> A comprehensive understanding of urban and regional planning, including land use.

The similarity of the recommended professional emphasis in recreation and park administration and in recreation resources planning is clear. So, too, are the broad scope of general education and professional education requirements in all three program areas and the resulting difficulty of giving the student more than a superficial knowledge of many of the subjects listed as required or desirable.

The committee recognizes that professional preparation with the coverage which it recommends cannot be completed in 4 years in any area of recreation. It, therefore, makes recommendations for graduate work, the primary purpose of which at the master's level is to deepen and broaden the student's undergraduate training, particularly in the categories of professional education and professional emphasis. In the program area dealing with natural resources management for recreation, he should study in considerable depth the principles relating to planning of local, State, and regional areas and the administrative aspects of the use of natural resources for recreation.

All doctoral programs, regardless of their area of emphasis, should strengthen still further the candidate's previous training, both general and professional, in his field of specialization. He should also obtain a broader understanding of research methodology, a greater competency in the use of tools of investigation, especially statistics, and increased ability to analyze and interpret research data. At least a third of the total number of course hours required for the doctorate should deal with recreation and parks.

Panel on Natural Resource Science.

Another study of curricula, including but not limited to outdoor recreation, has recently been made by a group with quite a different background of training and experience. In 1961, the Agricultural Board of the Division of Biology and Agriculture in the National Research Council established a Commission on Education in Agriculture and Natural Resources. This commission, in turn, in 1965, appointed a Panel on Natural Resource Science (PNRS). One of the tasks specifically assigned to the panel was the preparation of recommendations for the development of undergraduate programs in the field of renewable natural resources.

The panel came to the conclusion that the basic principles, and to a considerable extent the practices, involved in the management of renewable natural resources have much in common. It felt that this is true whether the major emphasis is on trees, wildlife, forage, water, or recreation. It, therefore, decided to recommend a unified but flexible approach to education for all aspects of natural resources management.

Its specific proposal is that there be a single curriculum for the education of students preparing for service in the field of renewable natural resources. This curriculum would be followed by all students, but its structure would be such as to meet the needs of those intending to work in different areas, such as forestry, wildlife management, watershed management, recreation management, etc. It would be divided into four parts—a basic core, an area emphasis, professional courses, and electives. The first part would be uniform for all students, while the other three parts would permit specialization.

The *basic core* would comprise 61 percent of the 132 semester hours of credit required for the baccalaureate degree. Its purpose would be to provide a broad liberal education that will enable the graduate to function effectively both as a citizen and as a professional man. Subjects recommended for inclusion are fundamentals of biology, ecology, mathematics (including at least one course in calculus), chemistry, physics, meteorology and climatology, geology, soils, principles of economics, resource economics, political science, sociology, philosophy or logic, literature, communications, man and his environment, and integrated resource analysis and planning.

Four *areas of emphasis* are suggested—plant science, animal science, social science, and soil and water science—with the possibility that new areas may emerge in the future. In terms of time, from 9 to 14 percent of the curriculum would be devoted to the chosen area of emphasis. Subjects recommended for inclusion in each of the four areas are as follows:

Plant science—principles of genetics, plant physiology, entomology, plant classification, and plant pathology.

Animal science—genetics, animal physiology, invertebrate zoology, vertebrate zoology, and animal diseases and parasites.

Social science—economics, resource economics, public administration, social structure and interaction, and resource policy and administration.

Soil and water science—geomorphology, hydrology, sedimentation and pollution control, and soil morphology.

Professional courses would be seven in number and would comprise 16 percent of the curriculum. They would, of course, build upon the foundation provided by the field of emphasis. The panel makes no recommendation as to the specific subjects that would be appropriate for each profession but, by way of illustration, suggests that the following courses would be sufficient for undergraduate specialization in forestry: wood structure and properties, silvics, silviculture, mensuration, forest management, and principles of wildlife management or range management or both. Outdoor recreation is not mentioned as a specific subject either here or in any of the areas of emphasis. The text, however, has this to say:

> *"The demand for outdoor recreation is increasing. Increased recreational use of land and water has intensified our problems in erosion control, land protection, water quality, and so on.*
>
> *"The national beautification effort provides new opportunities for resource professionals. . . . Detailed knowledge of the relations between soils, plants, animals, and water must undergird our cultural and aesthetic sensibility if our beautification goals are to be achieved. . . .*
>
> *"Sociological and economic aspects of renewable natural resources are coming to be recognized. These aspects of renewable natural resources need additional study. Efforts are being made to assess public preferences for outdoor recreation and to evaluate the aesthetic values of natural features."*

Finally, *unrestricted electives* would comprise from 9 to 14 percent of the curriculum. Together with areas of emphasis, they would add up to 23 percent of the total time available. For example, if 9 percent of the time were absorbed by an area of interest, 14 percent could be used for unrestricted electives, and vice versa. The panel urges the stressing of interdisciplinary relationships throughout the academic program.

The panel presented its proposals at a meeting of the Joint Committee on Education for Government Service on April 3-4, 1967. That committee expressed the belief that the Federal Government is becoming increasingly involved in helping to solve total environmental and economic problems, encouraged institutions to review their own long-term goals for educating natural resource scientists and managers, and recommended that attention be given to the structuring of curricula to meet the educational needs of persons who work in these fields. As the panel pointed out, these needs include the preparation of land managers to meet the growing demand for outdoor recreation of all kinds and to preserve and create natural beauty in both rural and urban areas.

Comparisons.

The recommendations of the three groups agree in emphasizing the importance of a broad foundation in the arts and sciences, to be followed by opportunity for specialization in a rather wide variety of fields. These include the many ramifications of recreation in the case of the first two groups (AAHPER and NREAPC), and of conservation and management of renewable natural resources in the case of the third group (PNRS). The scope of the subjects that all three groups propose to cover in 4 years is impressive and challenging—to both teachers and students.

The Committee in charge of the National Recreation Education Accreditation Project and the Panel on Natural Resource Science are alike in dividing the curricula that they propose into three main parts with similar general coverage but with different labels. Most schools offering curricula dealing with recreation and with renewable natural resource management already apply in practice, though usually without formal structural recognition, the principles on which the divisions are based. Nearly always the professional contents of the curriculum rest on a general and a preprofessional foundation.

The proposals of the two groups differ substantially in that the National Recreation Education Accreditation Project Committee covers all aspects of outdoor recreation and not merely those involving recreational use of natural resources (for example, Armed Forces recreation, College Union management, therapeutic recreation, and municipal recreation). It also goes into much greater detail concerning the education of professionals concerned with the recreational use of natural resources. Whether a single curriculum, however flexible, can adequately meet the needs of prospective practitioners with such a wide range of interests and activities is questionable.

Few will doubt the desirability of the extremely broad coverage suggested by the two groups, but many will doubt the feasibility of accomplishing it effectively in 4 years. There will also be acceptance of the need for general, preprofessional, and professional education in the curriculum, but opinions will differ as to the precise subjects that should be included in each category. Further study and experience are in order.

In recognition of the validity of such differences of opinion, the Panel on Natural Resource Science makes clear that it regards its recommendations as a guide, not a straitjacket. "Variations in institutional situations make diverse curricula patterns inevitable. Indeed, the panel is vigorously opposed to the suggestion of a monolithic, nationwide curriculum in renewable natural resources."

While sound undergraduate education is, of course, essential, the importance of graduate education should not be overlooked. A master's degree is highly desirable for the practitioner, and a doctor's degree is almost indispensable for the student who is looking forward to a career in research or in teaching at the college or university level. Much more attention also needs to be given to postgraduate education, which is becoming increasingly common in many other professional fields. Its primary purpose is to bring professional personnel engaged in the field of outdoor recreation up to date on new knowledge, new practices, and new programs and to provide opportunity for a free exchange of views and experiences. The time involved may vary from a single day to a few weeks or even to an entire year.

A good example is "The Executive Development Program for Park and Recreation Administrators" offered at Indiana University in the spring of 1968 under the sponsorship of the university and the National Recreation and Park Association. It consists of a 5-day session in residence, to be followed by a year of home study and another 5-day session in residence in the spring of 1969. Its purpose is to assist executives in the middle or upper management levels of park and recreation organizations to keep abreast of the changing world around them and in the continuing development of their managerial skills.

Another example, which differs in that it focuses upon resource management content and competencies, was initiated in 1967 at Texas A & M University. This 2-week Recreation Management Institute is cosponsored by the National Park Service and the university's Department of Recreation and Parks. The Institute is designed to upgrade recreation knowledge among recreation resource administrators, planners, and technical assistance specialists in middle-management positions in State and Federal agencies.

These precedents should be widely followed.

Civil Service Registers

Federal Civil Service registers from which appointments to professional positions are made are indicators both of the needs of Federal agencies and of the character of the professional curricula offered by colleges and universities. In order to meet the needs of the Bureau of Outdoor Recreation for personnel with a somewhat different background from that currently provided by institutions of higher education, the U.S. Civil Service Commission on November 1, 1966, announced an unassembled examination for Recreation Resource Specialists to provide a register from which appointments might be made by that Bureau and other Federal agencies. According to the announcement:

> *"Recreation Resource Specialists provide technical advice, guidance, and assistance to Federal, State and local governments and nongovernmental organizations in (1) appraising needs for new or expanded outdoor recreation resources, e.g., land areas, facilities, or program developments, to meet the expanding needs or changing habits of the using public, (2) identifying and classifying existing or potential outdoor recreation areas, and (3) evaluating potential or proposed recreation resources in terms of the relative merits and long-term importance of such competing demands on the area as water, soil or wildlife conservation, or commercial timber, mineral, agricultural, or real estate values.*
>
> *"They advise on such matters as legislation relating to recreation resources, facilities and programs, and the formulation of standards and criteria for the selection and use of outdoor recreation areas. They are responsible for the coordination and integration of the efforts of separate governmental and nongovernmental organizations engaged in planning and administering broadly conceived long-range outdoor recreation programs. They evaluate and make recommendations regarding the nature and extent of Federal support which should be given to such plans and programs."*

Approximately 2,300 applications were processed by the Board of Examiners, with 503 receiving eligible ratings. From the resulting register, 80 persons were appointed by the Bureau of Outdoor Recreation, 10 by the Army Corps of Engineers, and from 1 to 3 each by the Bureau of Reclamation, the Bureau of Land Management, the Bureau of Sport Fisheries and Wildlife, the Federal Power Commission, and the Public Health Service. No appointments were made by the Forest Service or the National Park Service, presumably because they felt that their needs could be met by drawing from other registers.

The variety of talent required by the Bureau of Outdoor Recreation is shown by the educational background of its professional employees. A recent review of the various degrees held by professional employees provided some interesting information in terms of the types of backgrounds represented in the Bureau. As of April 20, 1968, 24 percent obtained their academic preparation in forestry, 14 percent in biology and wildlife management, 14 percent in public administration, 9 percent in geography, 4 percent in economics, 3 percent in landscape architecture, 3 percent in a curriculum titled "Recreation," 4 percent in zoology, and the remaining 25 percent in 18 other fields, including urban or regional planning, civil engineering, agronomy, etc. These figures clearly show that a wide variety of academic disciplines have been utilized to staff the Bureau—a situation likely to prevail in other units dealing primarily with outdoor recreation.

In view of this overall situation, the Bureau of Outdoor Recreation has recommended the establishment of a new Civil Service series which will provide for the recruitment of Recreation Resource Specialists in GS grades 5 to 15. Their proposed activities are much the same as those specified in the 1966 announcement. Emphasis is laid on the fact that their work includes consideration of economic, sociological, political, financial, and related social factors in addition to natural resources factors. It does not include the planning, supervision, or carrying out of outdoor recreation activities such as summer camp or playground programs, camping, hunting, fishing, or similar activities; the administering of land for outdoor recreation and related purposes; or the designing of the physical layout, arrangement, and general appearance of recreation areas. Appointment to positions involving such responsibilities would be made by the Bureau and other Federal agencies from other appropriate registers.

Applicants for employment as Recreation Resource Specialists must meet one of the following requirements:

1. A full 4-year course of study in an accredited college or university leading to a bachelor's degree with a major in outdoor recreation, natural resources, geography, public administration or political science, economics, sociology, forestry, regional or urban planning, landscape architecture, or a closely related subject-matter field.

2. At least 24 semester hours of credit in some combination of the disciplines listed in paragraph 1, plus enough experience or additional education to total 4 years of experience and education or 4 years of education.

What is desired "is a combination of academic training in physical sciences and social sciences with related applied fields such as wildlife management, engineering, landscape architecture, and forestry. A strictly activity-oriented academic curriculum or one confined largely to natural resource training is not likely to produce the type of person envisioned as a Recreation Resource Specialist. Ideally, the series includes individuals who have a balance or combination of activity-oriented, resource-oriented and social science training."

The National Park Service is proposing the establishment of a new series of Civil Service examinations for the filling of professional positions in which the handling of recreational activities will play an important part. The Forest Service expects to continue to use the forestry register as a means of obtaining personnel with a broad background in resource management and to make assignments to positions involving substantial responsibility for the handling of recreation from persons who have acquired special competence in that field through education or experience. Federal requirements, of course, have an important influence on the programs of study dealing with outdoor recreation offered by educational institutions.

In this connection, it is interesting to note that the Civil Service Commission is undertaking a comprehensive study of all recreation-type positions in the Federal Government. This is indicative of the increasing number and importance of these positions in the Federal service.

The emphasis on breadth of training proposed for Recreation Resource Specialists has been criticized on the ground that a man trained from the outset as a generalist is likely to become simply a superficialist. The seriousness of this danger depends on how well programs for the training of generalists are organized and taught. Certainly there is a real and growing need for resource planners, managers, and administrators with a broad understanding of the complex interrelationships between the physical, social, political, and human problems in the management of the environment for recreation and other uses. That the generalists will require the services of specialists in a wide variety of fields is obvious. Both generalists and specialists—line and staff—are needed for effective teamwork. The education of both, with full recognition of the differences in their qualifications and duties, is a responsibility which the colleges and universities must meet.

Institutions

Information compiled by the National Recreation and Park Association shows that, in 1967, 178 park and/or recreation curricula were offered by 175 colleges and universities in 42 of the 48 contiguous States (Figure 1).* This is about four times the number of institutions offering such curricula in 1960. California led with 31 curricula, New York had 10, Washington had 9, and Illinois, Massachusetts, and Michigan followed with 8 each. A few institutions have established programs in these fields subsequent to the collection of the data, and many others are planning to do so—76 by 1970 and an additional 84 by 1980.

The types of degree programs offered are shown in the following tabulation:

	Number	Percent
2-year program only	39	22
4-year program only	60	34
4-year and master's programs	43	24
4-year, master's, and doctoral programs	34	19
Master's and doctoral programs	2	1
	178	100

Of the 2,070 degrees awarded in 1967, 66 percent were at the bachelor's level, 18 percent at the master's level, and 15 percent at the associate level. Forecasts of the new supply of graduates in 1967, 1970, 1975, and 1980 are shown in Figure 2, and estimates of current replacement needs in Figure 3.

The curricula were offered by units with such diverse names (and presumably diverse coverage) as Health, Physical Education, and Recreation (the most common); Physical Education; Recreation; Recreation and Park Administration; Public and Park Administration; Horticulture; Horticulture and Park Administration; Landscape Horticulture; Landscape Architecture; Forestry; Forestry and Wildlife; and Forestry and Natural Resources.

The great majority of the departments with the words "physical education," "recreation," and "park" in their names are located in schools of education. Their concern with outdoor recreation that makes use of the natural environment outside of parks varies widely. A dozen or so institutions in this group have been pioneers in extending their coverage beyond playgrounds, athletic fields, and municipal parks. The fact that many of the units dealing with this broader coverage are now graduating mostly practitioners rather than teachers raises the question as to whether schools of education are administratively the most suitable location for them.

---

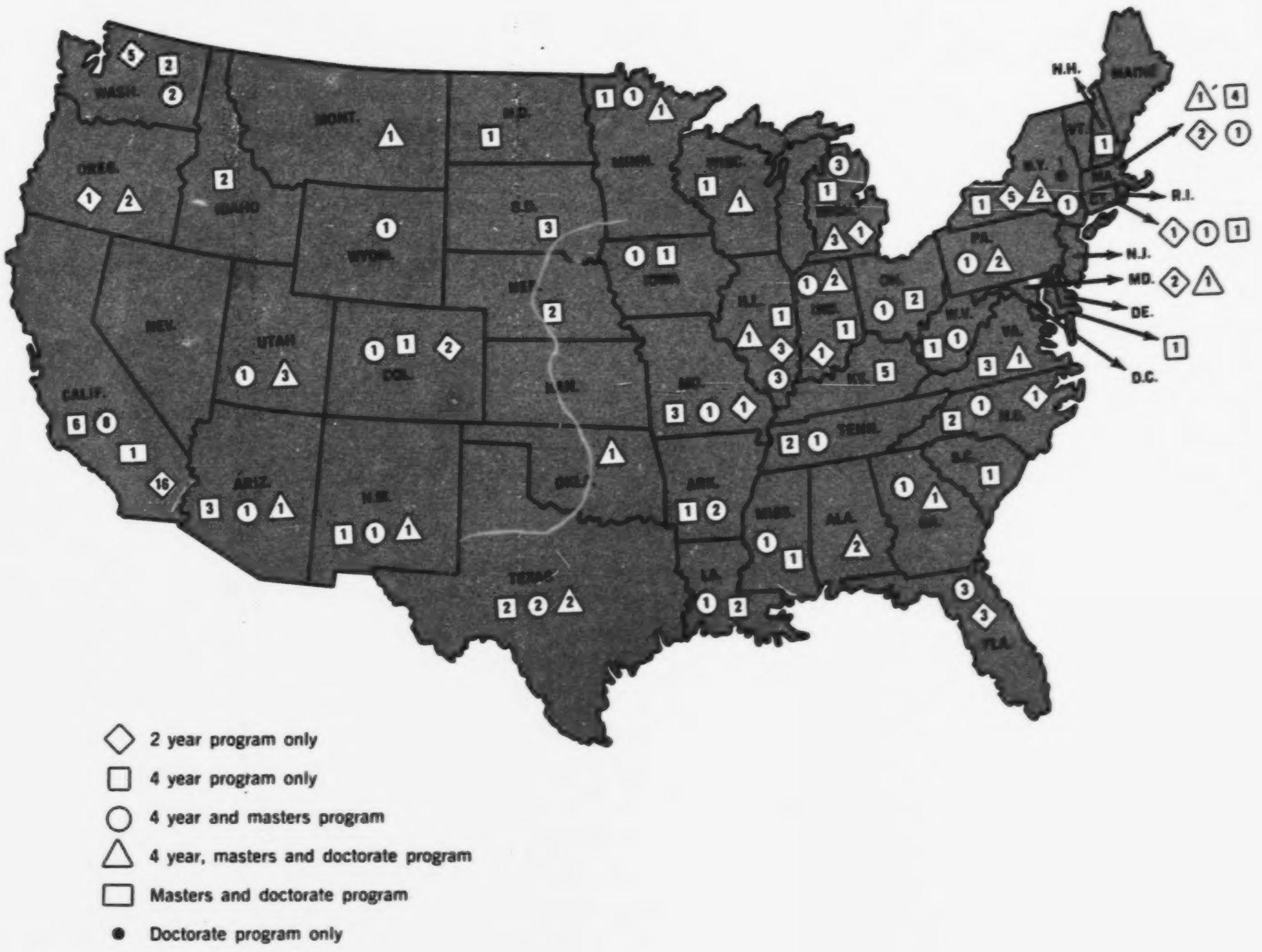
* *Hawaii and Alaska are not shown on the map and are not included in these statistics. The former has one institution offering such curricula, the latter none. The University of Massachusetts, Michigan State University, and Southern Illinois University each offered two curricula.*

The small number of schools of natural resources and forestry in the National Recreation and Park Association's list (17) does not indicate the extent to which schools in these fields are interested in outdoor recreation. Within the last few years, there has been a marked change in their attitude toward recreational use of forests and other wild lands. They found that the tremendous and accelerating increase in the use of such lands has resulted in impacts on the resources and on the economic and social life of the Nation that cannot be ignored.

This situation has created an urgent need for changes in the professional education of resource managers, notably in the broadening of their horizons and abilities. Foresters, who have commonly been regarded as absorbed in the task of timber production, have been particularly active in pushing for reforms both in education and in managerial policies and practices.

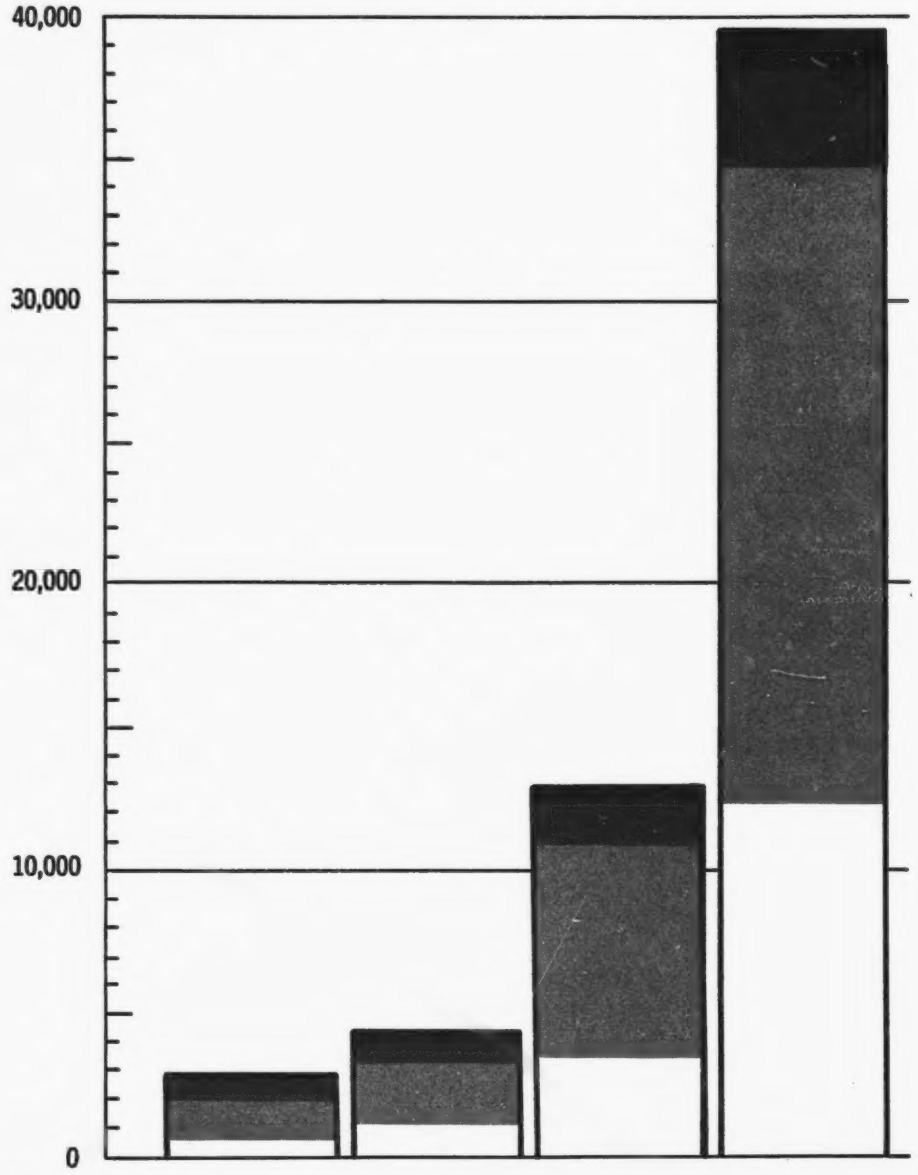
Schools of forestry and natural resources have responded to the new situation by scrutinizing and often revamping their curricula. It is the rare school that does not offer one or more courses dealing specifically with recreation as an important use of wild lands. Although these courses are now usually elective, there is a strong tendency toward requiring at least one course in outdoor recreation in all natural resource curricula. Special curricula in outdoor recreation are becoming increasingly common. In addition to specific courses and separate curricula, practically all schools of forestry and natural resources include material concerning recreation in courses dealing mainly with other, but related, subjects. For example, a member of the faculty of the

Figure 1. DISTRIBUTION OF PARK AND RECREATION CURRICULA AS REPORTED BY COLLEGES AND UNIVERSITIES, 1967


N.H.
MAINE
R.I.
N.J.
MD.
DE.
D.C.
◇ 2 year program only
□ 4 year program only
○ 4 year and masters program
△ 4 year, masters and doctorate program
▭ Masters and doctorate program
● Doctorate program only

Courtesy National Recreation and Park Association.

Figure 2. FORECASTS OF NEW SUPPLY OF GRADUATES FROM PARK AND RECREATION CURRICULA 1967-1980



		1967	1970	1975	1980
	TOTAL Graduates	2,070	4,458	13,189	39,754
■	No. Doctors Degree Graduates	22	100	341	1,169
■	No. Masters Degree Graduates	374	649	1,462	3,433
▨	No. Bachelors (4-year) Graduates	1,368	2,681	7,856	23,026
☐	No. Junior College Graduates	306	1,028	3,530	12,126
	Year	**1967**	**1970**	**1975**	**1980**

NOTES:

(1) Assuming that an additional 160 educational institutions initiate curricula before 1980 as was indicated in NRPA Educational Resources Survey, 1967.

(2) Projected junior college graduates based on a 28% annual increase 1969-1970 obtained from NRPA Educational Resources Survey, 1967. Because the majority of junior college park and recreation curricula have just recently initiated programs, the percent of annual graduates 1967-1968 and 1968-1969 would have been an overestimate.

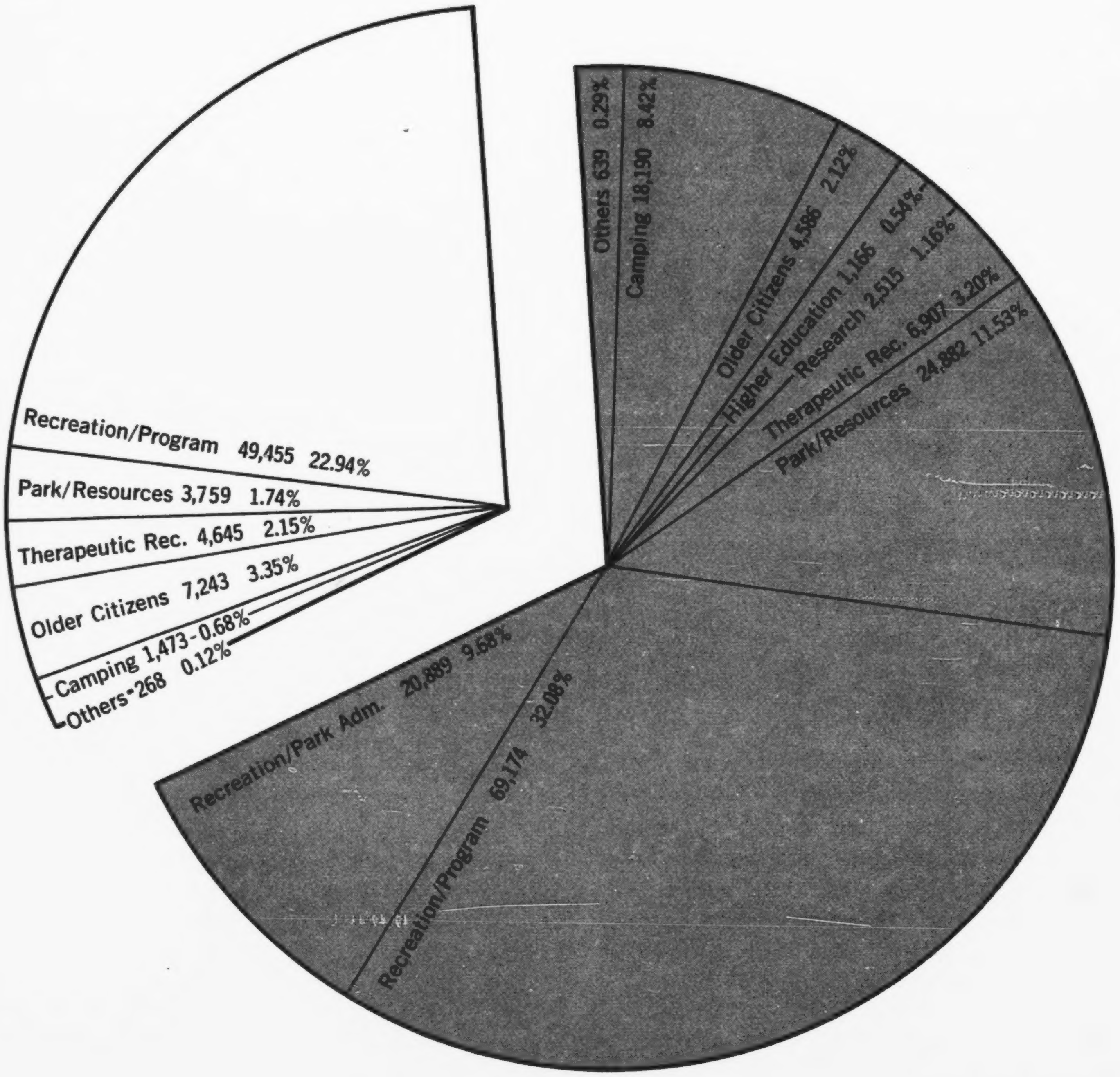
(3) Projected bachelors degree graduates based on 24% average annual increase 1967-1970.

(4) Projected masters degree graduates based on an 18% average annual increase 1967-1970.

(5) Projected doctors degree graduates based on a 28% average annual increase 1967-1970.

Courtesy National Recreation and Park Association.

Figure 3. ESTIMATED FULL-TIME & PART-TIME PARK & RECREATION PERSONNEL BY TRAINING REPLACEMENT NEEDS



1967

□ **TOTAL NUMBER OF PERSONNEL NEEDING 2 YEARS TRAINING 66,842 30.98%**

▨ **TOTAL NUMBER OF PERSONNEL NEEDING 4 YEARS TRAINING OR MORE 148,948 69.02%**

NOTES:

(1) Based on estimates of full-time equivalent personnel multiplied by 1.9851 for public sector, 1.1685 for commercial sector, and 1.023 for voluntary sector to convert full-time equivalent workers into total full-time and part-time personnel needing junior college or 4 years or more college training.

(2) Percentage figures are based on a total of 215,790 personnel estimated to need training of 2 years or more.

(3) Estimates of the numbers needing 4 years or more of college training or 2 years of college training were based on opinions of employers and NRPA estimates of training replacement needs.

Courtesy National Recreation and Park Association.

School of Forestry and Conservation at the University of California states that:

> *"Significant material on recreation management is offered in eight or more different courses required of undergraduates majoring in any aspect of wildland management. This reflects the faculty's philosophy which regards recreation as simply one of a spectrum of our uses toward which silviculture, inventory techniques, economics, engineering, and other professional disciplines are directed."*

Departments of landscape architecture constitute another group with an increasing interest in the contributions which their profession can make to improving the quality of recreational use of the natural environment. This is not surprising, since some 50 years ago landscape architects were the leaders in developing policies and practices for the recreational use of lands in national forests.

Although none of the existing 27 departments of landscape architecture appears to offer a separate program in outdoor recreation, many offer specific courses in that field. Among these are courses dealing with the following subjects:

Design of parks and recreation areas;
Public recreational facilities;
Planning recreational areas; and
Regional land planning.

Practically all departments of landscape architecture provide instructional material of value relating to the selection, design, and development of outdoor recreation areas, whether these are located in an urban or a rural setting. Widespread use of landscape architects is made by administrative agencies in the layout of recreational sites, both as members of the organization and as consultants.

It is doubtful whether landscape architecture is as yet making the contributions of which it is capable to educational programs in outdoor recreation. Progress is, however, being made, and there is a steadily growing and highly desirable cooperation between departments of landscape design, forestry, and recreation and park administration. At a few institutions, this cooperation is evidenced in the administrative structure. At the New York State University College of Forestry at Syracuse University, the School of Landscape Architecture is a part of the College. At The University of Michigan, the Department of Landscape Architecture is a part of the School of Natural Resources.

Many other university units have a major concern with the character and use of the environment. Examples are schools of architecture, schools of engineering, and schools of public health. Concern with the environment is even more pronounced in units with an obvious interdisciplinary coverage, such as the University of Wisconsin's Environmental Design Center, the University of California's College of Environmental Design, and Harvard University's Graduate School of Design. Wiser use of the environment for outdoor recreation and other purposes can be greatly furthered by specialists in many fields with an understanding of environmental problems. Breadth of training for such men should be strongly encouraged in appropriate professional schools and in interdisciplinary units.

In July 1964, a National Conference on Professional Education for Outdoor Recreation was held under the sponsorship of the Bureau of Outdoor Recreation, the New York State University College of Forestry, and Syracuse University. This conference brought together a large group of representatives of educational institutions and public agencies, who discussed in some depth the problems involved in educating the professionals who will be needed to direct the wide range of activities and environmental management involved in outdoor recreation. Much emphasis was placed on the importance of the interdisciplinary approach to professional education and on the need for breadth of coverage and flexibility in curricula. No attempt was made to itemize the specific courses that should be required or recommended.

The Bureau of Outdoor Recreation joined in the sponsorship of two other national conferences—one with the University of Michigan in 1963, and one with Utah State University in 1966. The first dealt with outdoor recreation research, the second with policy issues in outdoor recreation. The importance of education in connection both with research and policy was recognized throughout the discussions.

A major national conference in the form of a Forum on Preparing Tomorrow's Park, Recreation, and Conservation Leaders was held in Washington, D. C., on April 18-20, 1968, under the auspices of the National Recreation and Park Association. Some 225 participants from a variety of organizations and fields of interest considered the immediate and long-range actions needed to update methods of recruiting and training individuals for effective service in these fields in which outdoor recreation plays a prominent part.

Administrative Relations.

The broad scope and the great diversity of the curricula now offered and proposed raise important questions as to the administrative setups under which education in the field of outdoor recreation can be handled most effectively. Historically, instruction in recreation at the collegiate level started in schools of education in connection with physical education and health education. Gradually it has been increasingly divorced from these fields through the establishment of specific curricula in recreation and in some cases by the creation of separate departments. These developments seem to be in the right direction. Although the curricula usually cover all forms of both indoor and outdoor recreation, growing emphasis is being placed on outdoor recreation and particularly on park administration. Another significant change is the decrease in the number of graduates who go into teaching as compared with those who find employment with Federal, State, and local governmental agencies, industry, hospitals, the armed forces, college unions, and various volunteer organizations.

Departments of forestry and natural resources (with a variety of names), whether independent or located in colleges of agriculture or elsewhere, have also been expanding their offerings so as to place greater emphasis on the recreational use of forests and other wild lands. A few have introduced separate curricula, and their number seems to be increasing. The College of Forestry and Natural Resources at Colorado State University has organized a Department of Recreation and Watershed Resources, and the School of Forest Resources at North Carolina State University is considering establishment of a Department of Outdoor Recreation. All of the recreation courses and curricula at these schools are limited to recreation that is dependent on use of the forest and other natural resources. More and more attention is being paid to the preferences and needs of people as the dominant element in the management of resources for recreational purposes.

This situation raises the question as to whether there is, or is likely to be, any unnecessary and undesirable duplication in the professional preparation for outdoor recreation offered by the schools of education and the schools of forestry or natural resources. It is doubtful that the danger is serious. The former should deal primarily, as most of them now do, with organized recreational activities (both indoor and outdoor) which do not cover recreation as an aspect of multiple use of land and water resources—a field that can well be left to the schools of forestry and natural resources.

With such a division of responsibility, the only likelihood of substantial duplication is in the preparation of students for the handling of people and resources in wild-land parks. Any overlapping of territory here would be of consequence only in institutions having recreational programs in both schools of education and schools of forestry, of which there are now about 20. Here, no difficulty should exist in working out satisfactory arrangements between the two units, cooperation between which should in any case be close. Placing separate departments of recreation (whatever their name) in the same school, as has been done in the School of Forest Resources at North Carolina State University, constitutes one means of promoting cooperation.

It should be emphasized that outdoor recreation deals with so many facets of people and resources and of their relations to each other as to require an interdisciplinary approach to professional education in that field. No program can attain maximum effectiveness that does not make full use of the relevant resources throughout the institution. It should also be remembered that persons with basic training in the natural and social sciences, supplemented by appropriate education or experience in outdoor recreation, can make highly significant contributions to that field.

Accreditation

Initiation of the National Recreation Education Accreditation Project in 1963 helped to focus attention on the important subject of accreditation—the recognition accorded to an institute of higher education that meets the standards or criteria established by a competent agency or association. Its general purpose is to promote and insure high quality in education.

There are two kinds of accreditation—of an institution as a whole and of its professional schools. The former is handled by a regional association, the latter by an agency representing the profession involved. As the U.S. Office of Education points out, "A multi-university to be completely accredited requires both general accreditation by the appropriate association and accreditation of each of its professional schools by the appropriate professional accrediting agency."

In the teaching profession, accreditation of schools of education has been handled since 1952 by the National Council for Accreditation of Teacher Education. This council accredits only schools, not curricula, although the quality of the various curricula is examined in passing upon the eligibility of a school for accreditation. In 1958, the council, at the request of the American Association for Health, Physical Education, and Recreation, accepted responsibility for accreditation in recreation education. However, there was no aggressive followup, and, in October 1966, its director stated that the council would not stand in the way of an effort by the recreation profession to achieve separate recognition by the National Commission on Accrediting as the accrediting body for recreation education.

This action left the committee in charge of the National Recreation Education Accreditation Project free to pursue the objective for which it had been organized. In its statement to the National Commission on Accrediting, it makes a strong case for recognizing recreation as public service and as a service profession, with stress on accreditation as an essential part of such recognition. It points out that, while foresters and social workers carry on programs of accreditation in their respective fields, with recognition by the National Commission on Accrediting, neither group concerns itself directly with the accreditation of programs designed to prepare personnel for recreation service.

The scope of the committee's coverage is indicated by the following excerpt from its communication to the commission:

> *"Specalized needs for recreation personnel are expanding in varying degrees in the programs of hospitals, industries, churches, recreation and park systems, private agencies, penal and custodial institutions, and agencies serving the ill and handicapped. New needs are also continually arising for qualified recreation personnel to work in retiree communities and in residential schools, in after-hour programming for the handicapped both in community and institutional settings, in large motels and resorts to help them compete for business, and as writers for newspapers and magazines who can exploit the popular interest in recreation."*

As a part of its statement, the committee presents a detailed proposal of the standards that would have to be met to warrant accreditation. These deal with philosophy and purposes, faculty, students, research, organization and administration, facilities and equipment, and curriculum content. The latter has been discussed earlier.

The committee proposes that the accreditation program be handled by a Council on Recreation Education, which would also have responsibility for a continuing review and evaluation of recreation education programs.

The subject is one on which there is difference of opinion among both educators and practitioners. Probably the majority agree with the Accreditation Committee that "assurance of minimum academic quality is needed to give validity to the degree in recreation education; it can help to eliminate substandard academic practices and can give guidance to educational officials in administering educational programs. . . . A further value is . . . making possible the budget appropriations and promotional practices that help to attract and hold the best teaching and research personnel. Beyond this there is the value of being able to compete on equal terms with other professions for the best young people, and the value of being able to merit foundation and government grants for research and innovative procedures."

On the other hand, there are some who question not so much the need for accreditation as the desirability of lumping all forms of recreation in a single accreditation program. In this connection, it should be noted that instruction in recreation in schools of education is increasingly being centered in separate departments rather than in those concerned primarily with health and physical education and that similar departments (or curricula) are being established in many schools of forestry and natural resources. Also, relatively less emphasis is being placed on the training of teachers and more emphasis on the preparation of practitioners for leadership in planning and directing recreational activities, particularly in the field of outdoor recreation.

In 1935, the Society of American Foresters assumed responsibility for accrediting schools of forestry. It is now recognized by the National Commission on Accrediting and by the U.S. Office of Education as the sole agency for this purpose. Among the items taken into consideration in the accrediting of specific curricula is whether they meet the core requirements as to subject matter specified by the Society. Curricula emphasizing recreation that meet these requirements are accredited in the professional field of "forestry."

Curricula in schools of forestry or natural resources that do not meet these requirements should be subject to accreditation in the professional field of "recreation" by some other agency, such as that proposed by the National Recreation Education Accreditation Project Committee. Current proposals for accreditation should be carefully reviewed by interested and well-informed individuals and organizations with a view to obtaining as complete a consensus as possible on accreditation objectives, scope, and procedures. Approval by the National

Commission on Accrediting should be sought for whatever proposal is finally agreed upon.

Professional Registration

In 1962, the American Recreation Society established a plan for the voluntary registration of professional personnel in the field of recreational service. Its purpose is to set standards and to certify that those who meet these standards are qualified to render such service. The plan is designed to supplement similar plans operated by State chapters of the society. It is administered by a National Board of Registration in the American Park and Recreation Society, which is now one of the constituent members of the National Recreation and Park Association.

The plan has a desirable educational influence since it provides certification only for those who are professionally qualified by education (leading to at least a baccalaureate degree), training, and experience "to lead, teach, advise, supervise or administer in the field of recreation service." It strengthens the arguments in favor of accreditation as a means of increasing the effectiveness of programs of professional education in that field.

Teacher Education

Mention has previously been made of the basic importance of adequate preparation of teachers to handle the programs of environmental education discussed in the section on "Elementary and Secondary Schools." The point cannot be overemphasized, since competent teachers are obviously the key to the success of the programs.

Schools of education, as the chief source of grade-school teachers, have a major responsibility in this respect. The first step toward strengthening present curricula should be to introduce a one-semester course on the subject of environmental relations open for election by all students in the school. It should cover the broad aspects of the subject and should stress its significance in connection with courses in biology, civics, history, etc. Such a course should be recommended for election by all students in the school and should be required for those majoring in health education, physical education, or recreation education. Preferably, a second one-semester course should be introduced and offered as an elective in order to permit more adequate treatment of a complex subject. A next step might be to give environmental relations recognition as a major if the demand for teachers with special competence in that field increases sufficiently to justify such a move.

Students in other units of the university who look forward to grade-school teaching as a career should be urged, or required, to take the proposed course in environmental relations. They should also be encouraged to elect courses in related fields in which emphasis is placed on various aspects of the relation between man and his total environment.

Students who have followed undergraduate professional programs in any of the curricula previously discussed will, of course, have the technical preparation needed to weave environmental education into grade-school teaching. Graduate work, leading preferably to a doctorate, will be necessary for those looking forward to teaching in a college or university.

Colleges and universities can perform another useful service by offering summer courses and workshops, extension courses, and correspondence courses for grade-school teachers who wish to enlarge their understanding of the manifold relations between man and his environment. Such opportunities are particularly important for teachers without previous formal exposure to the subject.

Technicians

In any profession, the personnel with a professional education need the assistance of persons with a subprofessional education, commonly known as technicians. Although this need has not previously been emphasized in the field of outdoor recreation, it is now receiving widespread recognition. Nearly 50 junior colleges and community colleges now offer 2-year technical programs. In 1967, associate degrees were awarded to 306 park and recreation graduates, who serve in such positions as recreation program leaders, activity specialists, and skilled and semiskilled park personnel.

Much needs to be done in clarifying: the kinds of activity in which recreation technicians can serve most effectively; and the character of educational programs that can best prepare them to meet their responsibilities. A study now being conducted by the National Recreation and Park Association for the Office of Education to develop a curriculum guide for junior college training of recreation leaders will be helpful in these directions.

The study has already found convincing evidence of the growing need for technicians in the field of recreation and park services to function in a wide variety of activities for which skill of a high order, but not full professional education, is a prerequisite. Much of this work is now being done by persons with baccalaureate or advanced degrees. The National Park Service, for example, has found this to be conspicuously true in its own organization.

This situation raises a question as to whether the tremendous increase in professional personnel that has been generally assumed to be essential will actually be needed if an adequate supply of well-trained technicians is available. The National Recreation and Park Association estimates the supply of park and recreation graduates from 2-year programs will increase from about a fifth of the total number of graduates to nearly a third (12,126 individuals) in 1980.

Community Relations

Service to the community is an activity to which colleges and universities are devoting more and more attention. The service is usually local but may be Statewide, regional, or national in character. It may deal with problems in any field, but those concerned with the quality and use of the environment are apt to be conspicuous and to involve outdoor recreation either directly or indirectly.

The ability of colleges and universities to contribute to the successful prosecution of community development has been substantially strengthened by Title I of the Higher Education Act of 1965. That title authorizes grants to institutes of higher education "for the purpose of assisting the people of the United States in the solution of community problems, such as housing, poverty, government, recreation, employment, youth opportunities, transportation, health, and land use."

The availability of such grants was, in fact, responsible for the convening by The Conservation Foundation in the spring of 1967 of a conference on "The College, the Community, and Conservation." Its purpose was to consider the relations between the three C's, with special reference to the legislation just quoted.

The president of the foundation, in opening the conference, commented on the fact that the universities and colleges must provide the knowledge and the intellectual tools needed by citizens and community officials for sound action on new programs in such fields as city renewal, open space protection, pollution control, water conservation, and the provision of opportunities for healthful recreation. These institutions have an advantage in that people will listen to them because they can present the facts of environmental life impartially and responsibly. They can also define alternative courses of community action and can develop trained leaders who will define and implement action programs.

A representative of the Chamber of Commerce of the United States pointed out that environmental programs require a joint effort of the business community, the people, governments at all levels, and educational institutions. The Vice President for Services at the University of Georgia emphasized the fact that universities have a responsibility to aid communities in the solution of their problems, one of which is certainly environmental planning and consultation. Whether that aid results in constructive action depends upon the community.

A few examples will indicate the kinds of projects that are underway. Fairleigh Dickinson University has a traveling program to alert the residents of communities visited to the causes, effects, and control of air and water pollution. The university also has a project for the training of county recreation leaders which it hopes will lead to a recreation master plan for each county in the State.

Eastern Kentucky University has established a recreation consultant service to assist local county and community leaders in the establishment of public recreation programs. Three workshops have been held at the university campus for the training of recreation leaders. An informal faculty organization has been formed which includes the key recreation educators in each of the State universities in Kentucky and which will divide the State into regions for the purpose of coordinating all efforts at recreation education with private interests and the State government.

The University of New Hampshire has been assisting all of the State's 66 municipal conservation commissions and local planning boards on such matters as planning and action to preserve, acquire, manage, and enhance local natural resources. The project includes preparation of management leaflets and fact sheets, community workshops and seminars, university short courses and extensions, and a program for educational television.

The University of Massachusetts has instituted courses of study on environmental and conservation problems and regional planning which will be presented at the request of organizations and public agencies in their particular communities. Current emphasis is being placed on air and water pollution and on the urban environment.

The University of Iowa has sponsored a park and recreation conference to give aid and direction to Iowa county conservation boards and municipal park and recreation departments in the development of park and outdoor recreation areas. The University of Minnesota has inaugurated a recreational and park training institute in an effort to provide needed in-service training for professional recreation and park personnel.

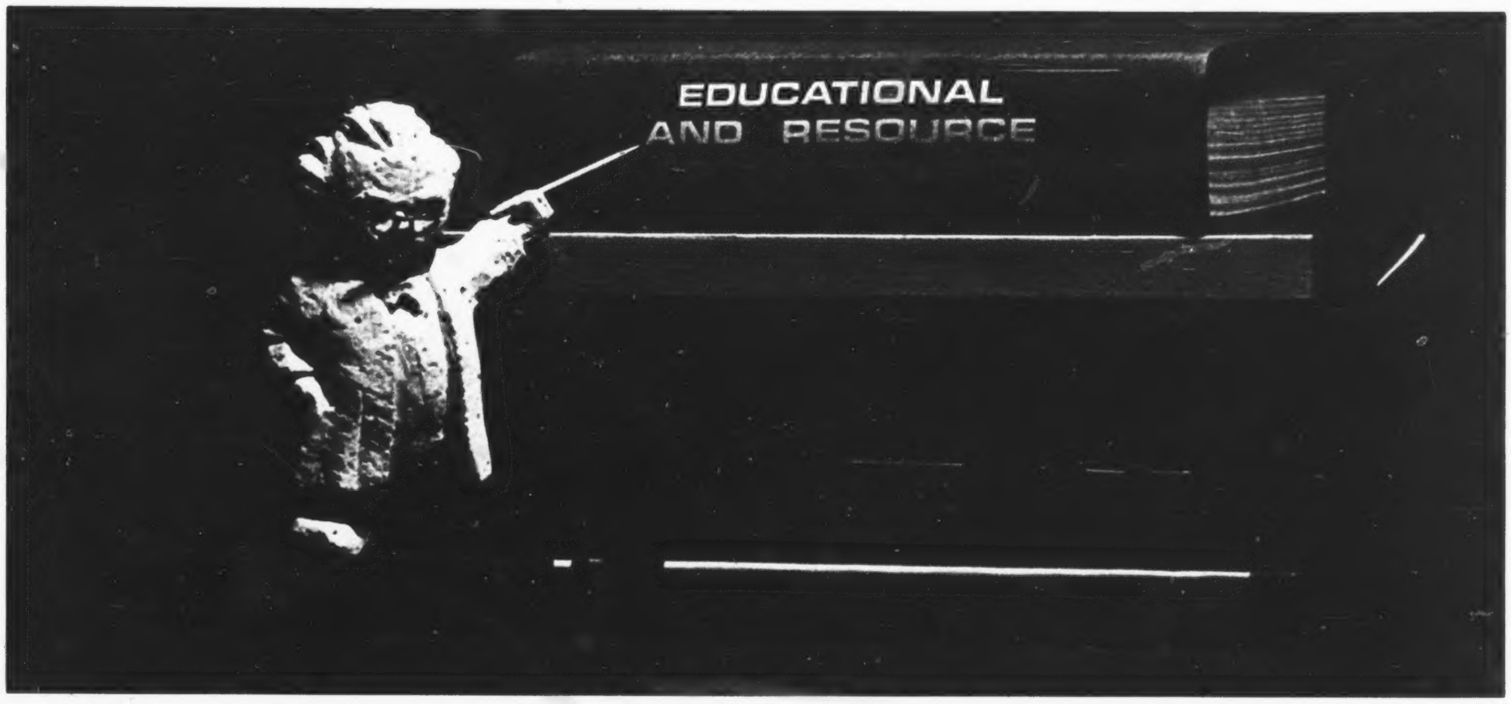
The University of Nevada has employed a recreational resource specialist and a recreation designer to work with individuals and community groups in sparsely populated areas toward development of resources for recreation enterprises which hopefully will broaden the economic base of such areas. Their activities may range from assisting an individual engaged in agriculture who desires to make multiple use of his land by developing a recreational enterprise, to assisting community action groups in the development of a complete recreation complex.

Although college and university involvement in community problems has been stimulated by the Higher Education Act of 1965, their activities should not be confined to Title I projects, funds for which will always be limited. They should have programs that are comprehensive in scope and that include cooperation: (1) with public agencies (for example, municipal, county, and State departments of conservation, parks and recreation, health, welfare, public works, and planning); (2) with private organizations (for example, conservation groups, such as the Izaak Walton League, chambers of commerce, service clubs, garden clubs, and women's organizations, such as the League of Women Voters); and (3) with prominent individuals.

As a part of their participation in community affairs, colleges and universities should offer conferences, seminars, workshops, and courses of varying length from a few days to a full semester. These may be of general interest, as has been suggested earlier in the discussion of "General Education," or they may be focused on some specific community project of current interest.

The Nationwide Plan for Outdoor Recreation is naturally concerned primarily with community problems and projects that have a bearing on the natural environment and its use for recreational purposes. Actually, this concern embraces a wide field, since any action that makes the community a more attractive place in which to live is either directly or indirectly advantageous from the standpoint of outdoor recreation.

In summary, college and university involvement in community affairs strengthens the relations between town and gown to their mutual advantage. In addition to providing practical assistance on specific projects, it is highly effective in developing community leaders. This is a particularly important contribution because strong leadership is the key to successful community action. Popular support is, of course, essential, but such support needs intelligent and forceful direction, which must be provided by a relatively few well-informed and dedicated citizens. It removes members of college faculties from their alleged isolation in ivory towers, and it makes available to the community their expertise in almost every field of knowledge.



Since early in the present century and even before that, many private organizations have taken an interest in recreation education, with increasing attention to outdoor recreation. The American Institute of Park Executives was organized in 1898. In 1907, the Playground Association of America (organized the previous year) appointed a committee to work on a course in play. This study led to the organization of several courses for the training of normal school students, grade school teachers, and playground directors. Contacts with colleges and universities were also started in 1907, and, beginning in 1910, a representative of the association visited a large number of normal schools and colleges to advise with faculty members about courses in play.

During World War I, the association conducted local intensive training institutes to improve recreation services for military personnel. Community recreation schools were started in 1920 and provided 6-week training periods for students. A more ambitious National Recreation School for Professional Graduate Training, with an 8½-month program, was established in 1926 and continued until 1935. In that year, the National Recreation Association (a new name for the original Playground Association of America, which in 1911 had been renamed Playground and Recreation Association of America) established 4-week courses for the training of both apprentices and experienced workers. In 1956, the association estimated that about a third of a million persons had attended its training institutes. So far as the outdoors is concerned, these institutes dealt chiefly with playgrounds and nature study. However, the association's early interest in playgrounds and later in parks gradually expanded to all forms of outdoor recreation, not respective of the location, character, or ownership of the land.

The founding of the Boy Scouts of America and the Campfire Girls in 1910 and of the Girl Scouts of the United States of America in 1912 led to the establishment of the Camp Directors' Association of America, which, in 1924, became the present American Camping Association. This association has exerted a strong influence in teaching young people, particularly in the hundreds of privately operated camps, how to appreciate and to get along in the outdoors.

The growing interest in parks led in 1921 to the establishment of the National Conference on State Parks. In 1924, the American Association of Zoological Parks and Aquariums became an autonomous affiliate of the American Institute of Park Executives.

The Society of Recreation Workers of America was organized in 1938 as an offshoot from the National Recreation Association; in 1946, it changed its name to American Recreation Society. It was strictly professional in character, limited its membership to those engaged in professional work, and showed an active concern for professional education. In 1957, a Professional Education Section was established as one of the society's numerous divisions. Recognition of the need for still more aggressive action in the promotion of professional education is indicated by the following comment of one of the society's members a few years later: "Of the things that need to be done in recreation the formost need is the development of technically trained recreators who have the intelligence, professional knowledge, and the personal qualities demanded of a person who expects to function in a growing profession which is dedicated to serving all humanity." When the society became a founding member of the National Recreation and Park Association in 1966, it changed its name to American Park and Recreation Society and adopted as one of its objectives, "To encourage professional and technical education for recreation and park personnel."

The National Audubon Society (organized in 1905) started a conservation camp for teachers in 1934 on Hog Island in Maine. Today, it maintains four camps in as many States, at which it helps to equip teachers, youth leaders, and other adults to impart an understanding of man's role in nature. It operates six Audubon Centers, to which come increasing numbers of children with their teachers and leaders to gain personal experiences with nature which will vitalize their studies and their outlook on life. It manages 44 wildlife sanctuaries and a number of natural areas which are used primarily for public educational purposes. It cooperates with local communities in developing nature centers which provide valuable opportunities for educational and recreational use, particularly in urban areas. And it sponsors Audubon Junior Clubs in schools and youth groups in which more than 12 million children have enrolled since 1910.

The American Association for Health, Physical Education, and Recreation traces its history back to 1885, when the American Association for the Advancement of Physical Education was founded. It assumed its present name in 1938, when it established its Recreation Division. That division, through its Commission on Professional Education, has devoted much effort to upgrading the professional preparation of recreation and park personnel and has sponsored numerous recreation publications, conferences, workshops, and institutes.

Since 1937, the association has been affiliated with the National Education Association, for which it provides leadership in its special fields. Among its aims is increasing the effectiveness of health education, physical education, and recreation education in the improvement of human welfare. In 1966, it sponsored the establishment of the National Foundation for Health, Physical Education, and Recreation, one of whose purposes is to give emphasis to the role of education in these fields in the integrated process of total education.

As early as 1951, the association added a full-time consultant in recreation and outdoor education to its staff. Much greater emphasis was placed on the latter field in 1955 with the establishment of an Outdoor Education Project under the general oversight of the association's Council on Outdoor Education and Camping, composed of some 300 leaders in schools and colleges. Among its many undertakings, the project has held three national conferences—in 1958, 1962, and 1967.

As illustrative of their coverage, the 1962 conference stressed the urgent need for education for wise use of natural resources; for reaching both school children and adults; for more and better trained professional leadership by persons broadly prepared in several disciplines and competent to do planning and research; and for colleges and universities to provide adequate preparation for teachers and outdoor education leaders. With specific reference to school activities, several participants recommended preparation in outdoor education and conservation for all prospective teachers; integration of conservation and outdoor education experiences from kindergarten through the twelfth grade; and inclusion of more material on outdoor education in curriculum materials.

The Pinchot Institute for Conservation Studies, established jointly in 1963 by the U.S. Department of Agriculture's Forest Service and The Conservation Foundation, has so far confined its activities to educational conferences and projects aimed at effecting man's rational adjustment to his total environment. That outdoor recreation is an important part of that adjustment has always been implicit and sometimes explicit. The institute played an important part in initiating and organizing the impressive 1966 National Youth Conference on Conservation and Natural Beauty. The vigor and enthusiasm with which youth groups throughout the country subsequently tackled the job of improving environmental conditions, but through their own efforts and through stimulating action by local officials, provide striking evidence of the untapped potentialities of this age group. With adequate educational guidance, the 20 million young people in youth organizations can become a vital force in assuring the management of natural resources under policies and practices which will maintain an environment that is both beautiful and productive of needed goods and services.

Two other Institute projects deserve brief mention. In 1967, it held a Summit Conference of Conservation Education and Outdoor Education for leaders in these fields for the purpose of strengthening their individual and collective activities. It has cooperated with the State of South Carolina in developing a series of curriculum guides by grades for use in conservation education throughout the State—requests for which have come from all over the United States and from other countries.

The National Industrial Recreation Association was organized in 1941 for the purpose of promoting recreation as a sound industrial policy. It has company and individual memberships, and also student memberships which are open to students who are majoring or minoring in a field of recreation at colleges or universities where such training is offered. In 1961, it initiated a Certified Industrial Recreation Administrator's program in order to give recognition to individuals whose work in the field of employee activities has been outstanding. Like the registration plan of the American Park and Recreation Society, it focuses attention on the importance of education by limiting certification to those who have a baccalaureate degree in a recreation major or have a baccalaureate degree in some other field with satisfactory recreation leadership experience. As of January 1, 1968, there were 161 Certified Industrial Recreation Administrators.

A major development in the field of outdoor recreation took place on January 1, 1966, with the amalgamation of five organizations into the National Recreation and Park Association. These were the National Recreation Association, American Institute of Park Executives, American Recreation Society, National Conference on State Parks, and American Association of Zoological Parks and Aquariums. A later addition (1967) was the National Association of Recreation Therapists.

With its broad coverage and large membership, the National Recreation and Park Association is in a position to exercise vigorous leadership in the recreation field. It is organized into a lay division and a professional division, which consists of six semi-autonomous branches. It also has functional departments, among which the Education Department deals with professional standards, educational services, personnel and placement, conference institutes, and special training schools.

The Society of Park and Recreation Educators, a professional branch of the National Recreation and Park Association which was organized in October 1966, should have a great influence on education in the entire field of recreation education, including outdoor recreation. Membership is open to faculty of institutions of higher learning who have primary responsibility in instruction, research, supervision, administration, or field service with relation to curricula committed to the professional preparation of park and recreation personnel. Its basic objective is development, upgrading, and enrichment of recreation and park curricula.

Many other national, nongovernmental organizations with an interest in various aspects of outdoor recreation, among which education is often prominent, are in a position to further educational efforts in that field. A partial list of these organizations (both popular and professional, but excluding those concerned primarily with some specific sport) is given in Appendix A. To facilitate ready reference, the list also includes the organizations mentioned in the preceding discussion.

Numerous regional, State, and local organizations are more or less actively interested in conservation, including recreation of one form or another, and a few of them are particularly concerned with education for outdoor recreation. Clearly there is an abundance of private organizations with strong potentialities for educating people of all ages in behalf of better recreational use of the out of doors. The problem is to stimulate, strengthen, and coordinate efforts in this direction.

National conferences have been an important means of promoting recreation education. The first College Conference on Training Recreation Leaders was held at the University of Minnesota in 1937. It brought together 65 delegates from 21 States and 25 universities. Subsequent conferences have been held at the University of North Carolina in 1939, at New York University in 1941 and 1948, at Jackson's Mill, West Virginia, in 1948, and at Pere Marquette, Illinois, in 1950.

Mention has previously been made of the important national conferences held by the American Association for Health, Physical Education, and Recreation and by the Bureau of Outdoor Recreation in cooperation with The University of Michigan, the New York State College of Forestry and Syracuse University, and Utah State University. Two outstanding gatherings with strong educational implications called by President Kennedy and by President Johnson should also be noted. These are the 1962 White House Conference on Conservation and the 1965 White House Conference on Natural Beauty, in both of which outdoor recreation received much attention.

PUBLIC AGENCIES

Many Federal agencies have had a long and active concern with outdoor recreation, with some attention to education. This is particularly true of the National Park Service, whose museums and naturalists' programs have been outstanding, and of the Forest Service, whose educational activities at campgrounds have recently increased greatly in scope and effectiveness. The interpretive services of these two agencies, developed first and most intensively by the National Park Service, constitute a particularly effective educational tool.

A new Cooperative Program for Environmental Conservation recently launched by the National Park Service has a direct and highly promising bearing on education and outdoor recreation. One aspect of the program, entitled "National Environmental Education Development" (NEED), has been developed by the University of California at Davis. It provides for giving school children actual outdoor experience of at least a week's duration at each of three periods during their school years—in the fifth and seventh grades and at the high school level. Stress will be placed first on appreciation of the environment, next on man's use or abuse of land, air, and water, and finally on environmental conservation and the means of attaining it. The program was started in 1968 for fifth graders at five sites, both inside and outside the national park system, in different parts of the country from New York to California. Its purpose is not to add a new course to the curriculum but to relate the children's outdoor experience to all of the subjects already in the curriculum—to art and literature as well as to the natural and social sciences.

Another aspect of the National Park Service's new program is the establishment of a system of Environmental Study Areas in national parkland throughout the country for use by school groups. Twenty-five such areas have already been selected in the eastern United States, and more are being studied. The National Park Service will cooperate fully with schools in the development of teaching guidelines and materials through which an individual's relationship to the natural world can be taught.

The National Park Service states with respect to the overall program:

> *"By these efforts, we shall make available to teachers the natural areas, the materials and facilities, and the know-how that it takes to satisfy the hunger of eager young minds for knowledge of the world around them. We look to the day when every school in the United States will have, in easy reach of its students, an environmental study area. We are confident that these study areas and the programs now being developed for use in such areas, will give substantial guidance to educational activities of the sort that conservationists have urged for years."*

The program suggests the opportunity for similar action by other organizations.

Other Federal agencies with large land holdings—the Bureau of Land Management, Army Corps of Engineers, Bureau of Reclamation, Tennessee Valley Authority, and Bureau of Sport Fisheries and Wildlife—could advantageously increase their educational services to visitors so as to make their recreational use of the areas a more rewarding experience. The Department of Housing and Urban Development, through its Open Space and Urban Renewal programs, can aid the communities with which it cooperates to plan educational programs that will enhance the benefit to be derived by persons of all ages from recreational use of the areas involved.

A number of States are now providing interpretive services in connection with the administration of State parks. Education should receive increasing attention here and in other areas under State ownership as the Statewide plans for outdoor recreation are expanded and refined. Both the needs and the opportunities are large.

Similar opportunities exist in the counties, whose interest in outdoor recreation has been increasing rapidly and substantially in recent years. Evidences of this interest are the adoption in 1964 by the National Association of Counties of a National Policy for Parks and Recreation; the organization in the same year of a National Association of County Park and Recreation Officials; the initiation in 1965 of a Joint Service Program for County Parks and Recreation sponsored by the National Association of Counties and the National Recreation and Park Association; the holding of a Recreation Development Congress in 1964 and of a Natural Beauty and Recreation Congress in 1967; and the issuance of numerous publications on outdoor recreation, including a series of 10 community action guides for public officials prepared under contract with the Bureau of Outdoor Recreation, and a 326-page book entitled "County Parks and Recreation. . . . A Basis for Community Action." The interest of the national association in education, which in time will undoubtedly permeate the individual counties, is indicated by the statement in its declaration of policy that "coordination with local boards of education should include the park-school concept of building park sites adjacent to schools." Action at the county level is thus highly encouraging but still needs strengthening.

Education for and in outdoor recreation in towns and cities can be provided in connection with public parks and playgrounds, nature centers, and just plain open spaces. A nature center is a relatively recent development which is of special importance in an urban community, where opportunities for contact with the natural environment usually range from scarce to nonexistent. Its character and its recreational and educational values are described thus by Joseph J. Shomon of the National Audubon Society:

> *"A nature center can be defined as an area of undeveloped land near or within a city or town and having on it the facilities and services designed to conduct community outdoor programs in natural sciences, nature study and appreciation and conservation. It is, in essence, an outdoor focal point where the citizens of a community, both young and old, can enjoy a segment of the natural world and learn something about the interrelationship of living and non-living things, including man's place in the ecological community. Thus conceived, a dynamic and operating nature center provides innumerable educational, scientific, cultural and recreational benefits to the community, values that are far-reaching at the local level where the sinews of our free society are built."*

In addition to the educational opportunities open to them on their own lands, public agencies at all levels of government can do much to reach the general public through the printed word, radio broadcasts, television shows, and conferences. They have a definite responsibility to supplement the efforts of schools, colleges, universities, and private organizations in making outdoor recreation the truly recreational experience that it can and should be.

COMMUNICATIONS MEDIA

The mass communications media—newspapers, magazines, books, paperbacks, radio, motion pictures, and television—can and do exert a powerful educational influence in outdoor recreation, as in nearly all other human activities. Public agencies, conservation organizations, and educational institutions can make material available for use by writers and for newspaper fillers. Short subjects can be introduced by sponsors into radio and television programs. Commercial companies can include attractive material relating to the management of natural resources, including their use for recreational purposes, in advertisements.

Public agencies at all levels of government which are concerned with various aspects of man's relation to his environment have an excellent opportunity to use the mass media as a means of influencing people's attitudes and actions. Through wide distribution of printed material in the form of circulars, bulletins, and even books, they bring to the public information on the nature, extent, values, uses, and abuses of natural resources.

Annual expenditures by Federal and State agencies for the preparation and distribution of free and inexpensive material on natural resources are estimated in a study by the Ohio State University sponsored by the U.S. Office of Education at about $100,000,000. Among other things, such publications can point out the many problems raised by the competing demands of an exploding population for the use of these resources for the production of economic goods and the provision of recreational opportunities—in both cases with the maintenance or restoration of a high quality of environment. At the same time, they can suggest ways in which citizens as individuals and through group action can assist in their solution.

Press releases to newspapers and other periodicals constitute an effective means of obtaining wide distribution of information concerning developments of current interest. Close contacts between the agency and the news media help to promote the use of such material.

An even more effective opportunity to reach large segments of the public lies in radio and television broadcasts. They are being increasingly used by public agencies as a more available and more attractive medium than the printed word for reaching a larger number of people more frequently. A daily or weekly program is particularly helpful in permitting coverage of a wide field, providing continuity of presentation, and maintaining audience interest.

Other important media include motion pictures; photographs that are made available to newspapers, magazines, publishers, and freelance writers; color slides and film strips that explain conservation programs to local audiences; exhibits; and signs and posters that explain things of interest on the land or work that is being done.

These uses of the mass media are, of course, open also to conservation, public-service, industrial, and commercial organizations and to corporations and individuals. These groups can exert fully as powerful an influence as public agencies in informing and motivating the general public—not respective of age or occupation. Wider distribution is highly desirable of such conservation-oriented magazines as *American Forests, Audubon, The Izaak Walton Magazine (Outdoor America), The Living Wilderness, National Parks Magazine, National Wildlife, Outdoors Unlimited, Parks and Recreation,* and *Sierra Club Bulletin,* and of the occasional publications of The Conservation Foundation and Resources for the Future. Use of the mass media by corporations to promote the rational use of natural resources is a relatively recent development which should be strongly encouraged because of the favorable impact that support of conservation measures by private interests is certain to have on public opinion.

James Reston has said that "the mass communications of the country probably have more effect on the American mind than all the schools and universities combined." Properly used, they can be an outstanding means of educating the public as to the importance of the natural environment in the economic, social, and cultural life of the Nation, including its use for many forms of healthful and stimulating outdoor recreation. Much research is needed to determine how best to improve the quantity and quality of the material presented by these means of communication and to analyze its influence on readers, listeners, and viewers. With this information in hand, the next step will be to devise ways of getting the right kind of material prepared and widely used. Two requirements are that such use must be advantageous from the point of view of the supplier of the material and the medium by which it is used, and that it must influence constructively the thinking and action of the general public of all ages and interests. That marked improvement in the present situation is possible is much more clear than how it can be accomplished.

RECOMMENDATIONS

A half century ago, the Commission on Reorganization of Secondary Education enunciated a still-valid, cardinal principle of education: "The development of knowledge, understandings, and skills which will enable [a person] to use his leisure in ways which are constructive and satisfying." Outdoor recreation is one of the most rewarding of the many ways in which people can use the increasing leisure at their disposal.

This paper has discussed ways in which education can help to prepare people to obtain optimum benefit in the form of re-creation from recreational use of their outdoor environment. It has also discussed the education of professionals competent to manage the environment for recreational purposes and to assist those who engage in outdoor recreation to get the most from their recreational experiences in the form of enjoyment, relaxation, and renewed physical, mental, esthetic, and spiritual vigor.

The paper concludes with the following recommendations for strengthening present educational activities in this broad field.

Elementary and Secondary Education

1. That environmental education, with appropriate emphasis on outdoor recreation, be included in the instructional programs of the elementary and secondary schools from kindergarten through the twelfth grade. The objective should be to provide students with the skills, the knowledge, and the attitudes that will enable them to derive the most benefit from their outdoor recreation activities—both currently and in later life. This means giving them a respect for the natural environment; an appreciation of natural beauty; a knowledge of the contributions of natural resources to the well-being of the Nation; and understanding of the problems involved in the allocation of natural resources to, and their management for, specific purposes; and a motivation to participate as citizens in the formulation and adoption of sound policies and programs of environmental management.

2. That in these schools environmental education be made an integral part of the course content in such subjects as biology, geography, civics, economics, and history. Wherever appropriate, classroom instruction should be accompanied by instruction in the out of doors, preferably including experience in camping.

3. That consideration be given to the offering in junior and senior high schools of an elective, integrated course covering the broad field of man's relation to his entire environment (both urban and rural) with emphasis on its use for outdoor recreation. Such a course is generally regarded as undesirable as a requirement, but, if well taught, it could be decidedly useful as an elective for those with a special interest in the subject. Stress should be placed on the identification of problems and on the importance of citizen participation in their solution.

4. That elementary and secondary schools provide in-service training in the field of environmental relations in the form of seminars, workshops, and

special lectures for all teachers and particularly for those without previous preparation in that field.

5. That a comprehensive study be made by a foundation or a university of the philosophies, organizational setups, curricula, facilities, and related factors that can make environmental education the constructive influence which it should be in the elementary and secondary schools of the country. Such a study would be of much value to the Environmental Education Review Commission proposed in recommendation 18.

6. That the Office of Education in the U.S. Department of Health, Education, and Welfare expand its present activities in the field of environmental education by establishing a well-staffed unit capable of providing much-needed Federal assistance and leadership in developing education in that field along sound lines in the elementary and secondary schools. Such a unit could serve as a clearinghouse for information; conduct research of its own and support research by others; assist State boards of education and local school systems in planning, initiating, and operating programs in environmental education, including implementation of recommendations 1, 2, and 3; and cooperate with schools of education in strengthening the ability of their graduates to handle teaching in that field. It should have the assistance of an advisory committee broadly representative of the various interests involved.

Higher Education—General

7. That schools of education (or other units) offer a one-semester course on man's relation to his environment open for election by all prospective teachers and required for those majoring in health education, physical education, or recreation education. Such a course is essential for prospective teachers in these groups and is highly desirable for all teachers as a means of assisting them to integrate environmental education with other subjects.

8. That liberal arts colleges develop more generally and more effectively their current efforts to give students an understanding of environmental characteristics, uses, and problems, with emphasis on outdoor recreation (both urban and rural), as an essential part of their education. This can be done both by including the subject in courses in the natural and social sciences and by one or more specific, elective courses in the subject similar to those suggested for schools of education.

9. That colleges and universities offer environmental education for the public in general and for school teachers in particular through evening courses, seminars, lectures, summer courses and workshops, extension courses, and correspondence courses. These can provide an effective means of reaching many people, particularly adults, for whom regular classroom instruction during the academic year is not available.

Higher Education—Professional

10. That professional programs in schools of education stress those aspects of outdoor recreation that involve the use of playgrounds and parks, with an understanding of the place of recreation in multiple-use management of natural resources but with no attempt to turn out resource managers.

11. That schools of natural resources and forestry develop more generally and more effectively their current efforts to give all students an understanding of the relation of outdoor recreation to other uses of natural resources and of the principles and major practices involved in the handling of outdoor recreation as a major aspect of multiple-use management. Such understanding is an essential part of the equipment of all natural resource managers.

12. That schools of natural resources and forestry with adequate staff and facilities develop separate curricula and departments of outdoor recreation as a field of comparable importance with other aspects of natural resource management. Emphasis should be placed on policies and practices that take into account the needs and preferences of those who use recreational resources and facilities and on the importance of tactful handling of human relations.

13. That in institutions in which outdoor recreation is handled in more than one unit, such as a school of education and a school of natural resources or forestry, every effort be made to correlate their activities so as to avoid undesirable duplication and to increase the effectiveness of their respective offerings.

14. That, in all programs dealing with outdoor recreation, irrespective of their administrative location, strong emphasis be placed on breadth of coverage. Outdoor recreation involves so many aspects of people and of resources and of their relations to each other as to necessitate the interdisciplinary educational approach.

15. Accreditation of professional programs in

environmental education is desirable for the protection both of the public and of workers in the field and as a hallmark of the professional status of recreation.

Programs in which the emphasis is on a wide variety of recreational activities and which commonly involve the use of playgrounds and parks—now usually offered by schools of education—should be accredited by whatever agency may be agreed upon by those directly concerned with such programs and approved for the purpose by the National Commission on Accrediting. A unit within the National Recreation and Park Association might appropriately be established for this purpose.

Programs in which the emphasis is on outdoor recreation as an aspect of multiple use of the management of land and water resources—now usually offered by schools of natural resources and forestry—should be accredited by the Society of American Foresters, provided they meet that Society's requirements for accreditation, otherwise by the agency referred to in the preceding paragraph. Cooperation between the accrediting agencies is obviously desirable.

Higher Education—Technical

16. That more adequate provision be made for the education of technicians through 2-year programs for instruction at junior colleges, community colleges, and other appropriate institutions, such as ranger schools. Experience indicates the need for a much larger force of persons with adequate technical training to work with the professionals. Accreditation of such programs is desirable and should be handled by the same agencies that handle the accreditation of professional programs.

Related Fields

17. That university units in such fields as landscape architecture, environmental design, and regional and urban planning include outdoor recreation as an integral part of their activities. These units can be helpful in strengthening the instruction in schools of education, schools of natural resources and forestry, and other units in the same institution; and their graduates can play an important part in the planning and implementing of programs of outdoor recreation on both public and private lands.

General

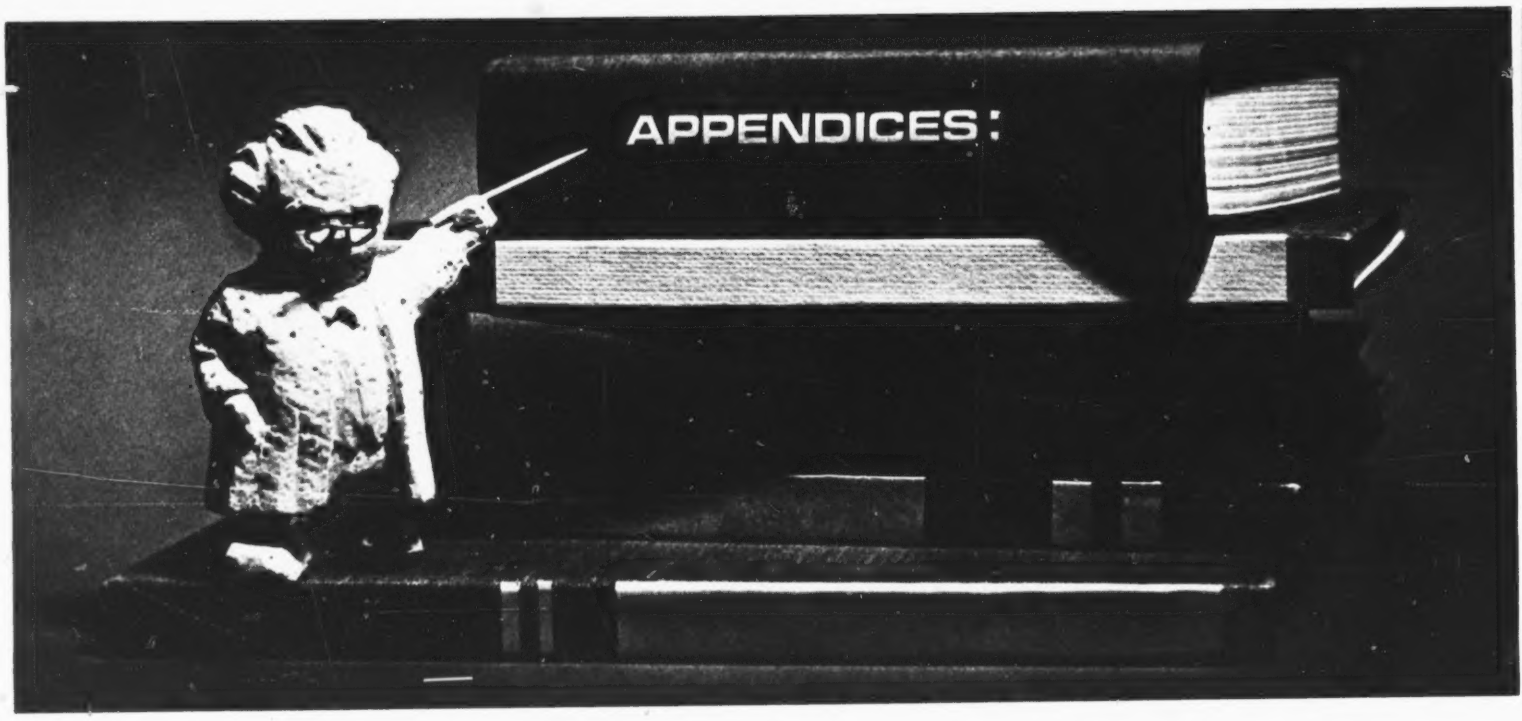
18. Congress should establish an Environmental Education Review Commission to undertake a comprehensive study of the relation of education—both popular and professional—to wise use of the natural environment (both urban and rural) for the production of goods and services, for outdoor recreation, and for other purposes. A thorough study at the highest governmental level is needed to analyze, correlate, and strengthen current activities of educational institutions (at all levels from kindergarten to graduate school), public agencies, private organizations, and others dealing with these fields. A study along the lines proposed in recommendation 5 would be of great value to the Commission, whether undertaken before or after its establishment.

One result of the recommendations of such a commission might be the establishment of a National Environmental Education Center (or Bureau) for the handling of such educational, investigative, advisory, and supervisory functions in the broad field of environmental education as Congress might delegate to it.

19. That the many educational, resource, youth, and civic organizations concerned with outdoor recreation strengthen and correlate their activities in the educational field. Such a National Environmental Education Center as that suggested in the preceding paragraph could be helpful in substantially increasing their effectiveness.

20. That both public agencies and private organizations increase their current efforts to use the mass media of all sorts as a tool for disseminating information concerning the innumerable aspects of man's relation to his environment. Because of their widespread coverage, the mass media provide an especially effective means of reaching people of all ages and in all walks of life.

21. That educators, managers, and administrators alike recognize that education for outdoor recreation as a major use of the environment (both urban and rural) is still in the early stages of development with respect both to the general public (youth and adults) and to professionals in the field. Concerted action is essential to use education as a major means of helping to make outdoor recreation the vital force that it should be in promoting the well-being of individual citizens and in strengthening the economic, social, and cultural life of the Nation.



Partial List of National, Nongovernmental Organizations Interested in Various Aspects of Outdoor Recreation

American Alpine Club
American Association for the Advancement of Science
American Association of Botanical Gardens and Arboretums
American Association for Conservation Information
American Association for Health, Physical Education, and Recreation (including Council on Outdoor Education and Camping)
American Association of School Administrators
American Camping Association, Inc.
American Casting Association
American Conservation Association, Inc.
American Farm Bureau Federation
American Fisheries Society
American Fishing Tackle Manufacturers Association
American Forest Products Industries, Inc.
American Forestry Association, The
American Institute of Biological Sciences
American Littoral Society
American Mining Congress
American Museum of Natural History
American Nature Study Society
American Ornithologists Union, Inc.
American Planning and Civic Association
American Scenic and Historic Preservation Society
American Shore and Beach Preservation Association
American Society of Ichthyologists and Herpetologists
American Society of Landscape Architects
American Society of Limnology and Oceanography, Inc.
American Society of Mammalogists
American Society of Range Management
American Water Resources Association
American Whitewater Affiliation
Appalachian Mountain Club
Appalachian Trail Conference
Association of College Unions—International
Association of Conservation Engineers
Association of Consulting Foresters
Association of Interpretive Naturalists
Association for Outdoor Education, Inc.
Association of Private Camps
Association for Supervision and Curriculum Development
Athletic Institute

Boatowners Council of America
Boone and Crockett Club
Boy Scouts of America
Boys Clubs of America
Brotherhood of the Jungle Cock, Inc., The

Camp Fire Club of America, The
Camp Fire Girls, Inc.
Chamber of Commerce of the United States of America
Citizens Committee on Natural Resources
Conservation Associates
Conservation Education Association
Conservation Foundation, The
Conservation Law Society of America
Conservation League
Cooper Ornithological Society

Daughters of the American Revolution, National Society
Defenders of Wildlife
Darling Foundation, Inc., J. N. "Ding"
Ducks Unlimited, Inc.

Ecological Society of America

Family Camping Federation
Federation of National Organizations for Recreation
4-H Clubs
4-H Youth Development
Friends of Nature, Inc.
Future Farmers of America
Future Homemakers of America

Garden Club of America, The
General Federation of Women's Clubs

Note: The list does not include organizations concerned primarily with some specific sport, such as golf or tennis.

Girl Scouts of the United States of America
Girls Clubs of America, Inc.

Holly Society of America

International Association of Game, Fish, and Conservation Commissioners
International Council for Bird Preservation—United States Section
Izaak Walton League of America, The

Joint Council on Economic Education

Keep America Beautiful, Inc.

League of Women Voters of the United States
League of Women Voters Education Fund

Mined-Land Conservation Conference

National Academy of Sciences
National Association of Biology Teachers
National Association of Elementary School Principals
National Association of Manufacturers
National Association of Secondary School Principals
National Association of Social Workers
National Association of Soil and Water Conservation Districts
National Association of State Departments of Agriculture
National Association of State Foresters
National Association of State Garden Clubs, Inc.
National Association of State Outdoor Recreation Liaison Officers
National Audubon Society
National Campers and Hikers Association
National Coal Association
National Council of Forestry Association Executives
National Education Association
National Farmers Union
National Fisheries Institute
National Forest Recreation Association
National Geographic Society
National Grange, The
National Parks Association
National Reclamation Association
National Recreation and Park Association (including American Park and Recreation Society, American Association of Zoological Parks and Aquariums, National Conference on State Parks, National Association of Recreation Therapists, and Society of Park and Recreation Educators)
National Recreation Industrial Association
National Research Council
National Rifle Association of America
National Science Teachers Association
National Waterfowl Conference
National Water Safety Congress
National Wildlife Federation
National Wildlife Federation Endowment
National Youth Conference on Natural Beauty and Conservation
Natural Resources Council of America
Natural Science for Youth Foundation
Nature Conservancy, The
North American Game Breeders Association, Inc.
North American Wildlife Foundation

Outboard Boating Club of America
Outdoor Education Association, Inc., The
Outdoor Writers Association of America, Inc.

Pinchot Institute for Conservation Studies, The

Rachel Carson Trust for the Living Environment
Red Cross Youth
Resources for the Future, Inc.
Ruffed Grouse Society of America, Inc.

Scientists' Institute for Public Information
Sierra Club
Society of American Foresters
Society of State Directors of Health, Physical Education, and Recreation
Sport Fishery Research Foundation
Sport Fishing Institute
Sporting Arms and Ammunition Manufacturers' Institute
Student Conservation Association, The

Trailfinders, Inc.
Trout Unlimited
Trustees for Conservation

U. S. Trout Farmers Association

Water Pollution Control Federation
Welder Wildlife Foundation
Wild Animal Propagation Trust
Wilderness Society, The
Wildlife Management Institute
Wildlife Society, The
Wilson Ornithological Society
Woman's National Farm and Garden Association

Young Men's Christian Association
Young Women's Christian Association

Selected Bibliography

Accreditation and Standards: Pro and Con. Proceedings of a symposium, August 28, 1967, cosponsored by Commission on Education in Agriculture and Natural Resources, National Academy of Sciences-Natural Research Council, and American Society for Horticultural Science. HORTICULTURAL SCIENCE 3(1):27–35, Spring 1968.

American Association of School Administrators. Conservation in the people's hands. Washington. 330 pp. 1964.

———. Imperatives in education. Washington, 180 pp. 1966.

Ashbaugh, Byron L. Planning a nature center. N. Y., National Audubon Society. 86 pp. 1963.

———. Scientific uses of the outdoors in education. THE SCIENCE TEACHER 34(4):53–55, Apr. 1967.

Bathurst, Effie G., Hill, Wilhelmina. Conservation experiences for children. U. S. Office of Education, Bul. 1957, No. 16 (31099). Washington, Govt. Print. Off. 104 pp. 1964.

Bibliography of school camping and outdoor education. Martinsville, Ind., American Camping Association. 29 pp. 1962.

Blackwood, Paul L. Science teaching in the elementary schools. U. S. Office of Education, Cir. No. 749 (OE–2509). Washington, Govt. Print. Off. 104 pp. 1965

Blauch, Lloyd E. Education for the professions. Washington, Govt. Print. Off. 317 pp. 1955.

———. Accreditation in higher education. Washington, Govt. Print. Off. 317 pp. 1955.

Brennan, Matthew J. Conservation as an area of study appropriate to natural science. THE SCIENCE TEACHER 34(4):16–20, Apr. 1967.

Brightbill, Charles K. Man and leisure, a philosophy of recreation. Englewood Cliffs, N. J., Prentice-Hall, Inc. 292 pp. 1961.

———. Education for recreation leadership. AMERICAN RECREATION JOURNAL 5:148–150. Sept.-Oct. 1964.

———. Education for leisure-centered living. Harrisburg, Pa., Stackpole. 232 pp. 1966.

Brockman, C. Frank. Education for recreational management of wild lands. Seattle, Wash., University of Washington. 8 pp. 1966. Dup.

Carlson, R. E., Deppe, T. R., Maclean, J. R. Recreation in American life. Belmont, Calif., Wadsworth Publishing Company. 530 pp. 1963.

Citizens' Advisory Committee on Recreation and Natural Beauty. Annual report to the President and to the President's Council on Recreation and Natural Beauty for the year 1967. Washington. 28 pp. 1967.

———. Community action for natural beauty. Washington, Govt. Print. Off. 36 pp. 1968.

The college, the community, and conservation. Report of a conference, May 22–23, 1967. Washington, The Conservation Foundation, 97 pp. 1967.

County action for outdoor recreation. Washington, National Association of Counties. 48 pp. 1964.

Cummings, Howard H., Mackintosh, Helen K. Curriculum responsibilities of state departments of education. U. S. Office of Education Misc. No. 30 (OE-33005). Washington, Govt. Print. Off. 76 pp. 1960.

Directory of Federal and State Agencies Concerned with Outdoor Recreation. Washington, Bureau of Outdoor Recreation. 51 pp. 1963.

Dorsey, Albert H. H. The conservation curriculum improvement project: a statewide effort to promote interest and action in environmental education. THE SCIENCE TEACHER 34(4):49–51, Apr. 1967.

Duerr, William A. The changing shape of forest resource management. JOURNAL OF FORESTRY 65:526–529, Aug., 1967.

Education in and for the outdoors. Report of a national conference on outdoor education, May 2–4, 1962, sponsored by the Outdoor Education Project. Washington, American Association for Health, Physical Education, and Recreation. 96 pp. 1963.

Emanuelson, Clifford E. Action models. Milford, Pa., The Pinchot Institute for Conservation Studies. 100 pp. 1967.

Fact book: Office of Education programs. Washington, Govt. Print. Off. 85 pp. 1967.

Fersh, George L. Goals for resource-use education. *In* Transactions of the twenty-fifth North American Wildlife Conference: 458–464. Washington, Wildlife Management Institute. 1960.

Geyer, R. E. Outdoor recreation and parks management curricula in colleges of agriculture and forestry. Washington, Commission on Education in Agriculture and Natural Resources, National Research Council. 9 pp. 1966. Dup.

———. Trends in undergraduate education in renewable natural resources. Washington, Commission on Education in Agriculture and Natural Resources, National Research Council. 11 pp. 1966. Dup.

Graduate Education in Health Education, Physical Education, Recreation Education, Safety Education, and Dance. Report of a national conference, Jan. 8–13, 1967. Washington, American Association for Health, Physical Education, and Recreation. 96 pp. 1967.

Hale, Roger D., ed. Resource training for business, industry, government. Report of first conference on graduate training in resources, April 27–28, 1956. N.Y., The Conservation Foundation. 159 pp. 1958.

Howenstein, William L. Conservation in school camping. AMERICAN BIOLOGY TEACHER 24(1):40–45, Jan. 1962.

Johnson, Carl S., Dambach, Charles A. Conservation-materials conservation: a survey of printed materials for conservation. Cooperative Research Project No. 2213, supported by the Office of Education, U. S. Department of Health, Education, and Welfare. Columbus, Ohio, The Ohio State University. 134 pp., 6 appendices. 1966. Dup.

Joint Committee on Education for Government Service. Report of meeting, April 3–4, 1967. Washington, U. S. Department of Agriculture. 66 pp. 1967. Dup.

Kaplan, Max, Lazarfeld, Paul. The mass media and man's orientation to nature. *In* Outdoor Recreation Resources Review Commission, Study Report 22, trends in American living and outdoor recreation: 187–214. Washington, Govt. Print. Off. 1962.

Kraus, Richard S. Recreation and the schools. N. Y., The Macmillan Company. 308 pp. 1964.

LaGasse, Alfred B., Cook, Walter L. History of parks and recreation. Wheeling, W. Va., American Institute of Park Executives. 40 pp. 1965.

Land and water for tomorrow—training community leaders: a handbook. Washington, The League of Women Voters Education Fund. 44 pp. 1968.

Lively, Charles E., Preiss, Jack J. Conservation education in American colleges. N. Y., The Ronald Press. 267 pp. 1957.

Munzer, Martha E. Conservation tools for the teacher. THE SCIENCE TEACHER 34(4):36–38, Apr. 1967.

Nash, Jay B. The enlarging role of voluntary leisure-time associations in outdoor recreation and education. *In* Outdoor Recreation Resources Review Commission, Study Report 22, trends in American living and outdoor recreation: 157–186. Washington, Govt. Print. Off. 1962.

National Conference on Outdoor Recreation Research. Proceedings of conference, May 6–8, 1963, cosponsored by The University of Michigan and Bureau of Outdoor Recreation. 240 pp. 1963.

National Conference on Policy Issues in Outdoor Recreation. Proceedings of conference, September 6–8, 1966, cosponsored by Utah State University and Bureau of Outdoor Recreation. 220 pp. 1966.

National Conference on Professional Education in Outdoor Recreation. Proceedings of conference, July 9–11, 1964, cosponsored by State University College of Forestry at

---

Note: "Dup." indicates that the item was duplicated by mimeographing or some similar process.

Syracuse University, Bureau of Outdoor Recreation, and Syracuse University. 227 pp. 1964.

National Recreation Education Accreditation Project. Standards and evaluative criteria. N. Y., published for Federation of National Professional Organizations for Recreation by National Recreation Association. 34 pp. 1965. Dup.

———. A request to the National Commission on Accrediting for approval of an accrediting agency for recreation education. N. Y., Dr. Edith L. Ball, Coordinator, New York University. 68 pp. 1967. Dup.

National Workshop on Cooperative Extension's Role in Outdoor Recreation. Proceedings of meeting, Jan. 30–Feb. 2, 1967. Athens, Ga., University of Georgia. 157 pp. 1967. Dup.

National Youth Conference on Natural Beauty and Conservation. A report to the Nation. Washington, Govt. Print. Off. 36 pp. 1966.

———. Preliminary research findings on the National Youth Conference on Natural Beauty and Conservation. Washington, Govt. Print. Off. 1967.

Outdoor Recreation Resources Review Commission. Outdoor recreation for America. Washington, Govt. Print. Off. 246 pp. 1962.

———. Study Report 22, trends in American living and outdoor recreation. Washington, Govt. Print. Off. 257 pp. 1962.

PACE Outdoor Education Projects. Washington, Office of Education, U. S. Department of Health, Education, and Welfare. 85 pp. 1967. Dup.

Panel on Natural Resource Science, Commission on Education in Agriculture and Natural Resources, Agricultural Board, Division of Biology and Agriculture, National Research Council. Undergraduate education in renewable natural resources: an assessment. Washington, National Academy of Sciences Publication 1537. 28 pp. 1967.

Personnel Standards in Community Recreation Leadership. N. Y., National Recreation Association. 66 pp. 1965.

Professional Education in Health Education, Physical Education, Recreation Education. Report of a national conference, Jan. 8–13, 1962. Washington, American Association for Health, Physical Education, and Recreation. 159 pp. 1962.

Recreation and Park Manpower: Supply/Demand Yearbook. Washington, National Recreation and Park Association. 23 pp. 1968. Dup.

Scheffey, A. J. W., ed. Resources, the metropolis, and the land grant university. Proceedings of a conference, Jan.–May 1963. Amherst, Mass., University of Massachusetts. 76 pp. 1963.

SCIENCE TEACHER, THE. The issue for April 1967 (Vol. 33, No. 4) is devoted entirely to the subject of conservation with strong emphasis on education.

Shipman, George A. Long range planning for wildland recreation management. Seattle, Wash., University of Washington. 8 pp. 1966. Dup.

Shomon, Joseph J. A nature center for your community. N. Y., National Audubon Society. 40 pp. 1962.

———. The right road to conservation education. IZAAK WALTON LEAGUE MAGAZINE 27(2):6–7, Feb. 1962.

———. Manual of outdoor conservation education. N. Y., National Audubon Society. 96 pp. 1964.

———. ed. Guidelines to conservation education action. Prepared under the auspices of The Izaak Walton League of America Conservation Education Committee in cooperation with the Conservation Education Association and the Nature Centers Division of the Natonal Audubon Socety. Glenview, Ill., The Izaak Walton League of America. 132 pp. 1964.

———, ed. Manual of Outdoor Interpretation. N. Y., National Audubon Society. 104 pp. 1968.

Smith, Julian W. Developments in the field of education affecting outdoor recreation resources. *In* Outdoor Recreation Resources Review Commission, Study Report 22, trends in American living and outdoor recreation: 133–155. Washington, Govt. Print. Off. 1962.

———. School camping as viewed by the recreational director. RECREATION 45:537–540, March 1952.

Snyder, Raymond A., Scott, Harry A. Professional preparation in health, physical education, and recreation. N. Y., McGraw-Hill Book Company, Inc. 421 pp. 1954.

Soil Conservation Service. An outline for teaching conservation in high schools. Washington, Govt. Print. Off. 21 pp. Issued 1952, reprinted 1967.

———. An outline for teaching conservation in elementary schools. Washington, Govt. Print. Off. 14 pp. Issued 1955, revised 1966.

Soil Conservation Society of America, Professional Training Committee. The training of the professional in resource conservation. JOURNAL OF SOIL AND WATER CONSERVATION 22(2):84–85. March–Apr. 1967.

Stapp, William B. Integrating conservation and outdoor education into the curriculum, K–12. Minneapolis: Burgess Publishing Company. 103 pp. 1965.

———. A brief overview of conservation education in the United States. Ann Arbor, Mich., The University of Michigan. 35 pp. 1967. Dup.

———. Consideration of a few approaches to environmental education. Ann Arbor, Mich., The University of Michigan. 13 pp. 1967. Dup.

———. Inservice teacher training in environmental education. THE SCIENCE TEACHER 34(4):33–35, Apr. 1967

Stoddard, George D. The merging pattern of outdoor recreation and education—problems, trends, and implications. *In* Outdoor Recreation Resources Review Commission, Study Report 22, trends in American living and outdoor recreation: 115–132. Washington, Govt. Print. Off. 1962.

Stotler, Donald W. Science in the outdoor laboratory. THE SCIENCE TEACHER 34(4):33–35, April 1967.

Summit Conference of Conservation Education and Outdoor Education. Report of a conference, May 2–5, 1967. Milford, Pa., The Pinchot Institute for Conservation Studies. 9 pp. 1967.

Sutherland, Willard C. The development and growth of a profession. RECREATION 49:300–303, June 1956.

Techniques of teaching conservation. Report of a conference. October 10–12, 1966. Milford, Pa., The Pinchot Institute for Conservation Studies. 13 pp. 1967.

Train, Russell E. Needs for research and education. THE SCIENCE TEACHER 34(4):25–26, Apr. 1967.

———. The role of foundations and universities in conservation. Washington, The Conservation Foundation. 14 pp. 1967. Dup.

Underhill, A. H. Outdoor recreation—training and research. Washington, Bureau of Outdoor Recreation. 9 pp. 1967. Dup.

Verhoven, Peter. The junior college: help or hindrance? The role of the junior college in the preparation of park and recreation personnel. Washington, National Recreation and Park Association. 16 pp. 1968. Dup.

Weaver, Richard L., project leader. Handbook for teaching of conservation and resource use. Prepared by the National Conservation Committee of the National Association of Biology Teachers in conjunction with the American Nature Association. Danville, Ill., The Interstate Printers and Publishers, Inc. 499 pp. 1955.

———. Manual for outdoor laboratories. Danville, Ill., Interstate Press. 81 pp. 1959.

White House Conference on Natural Beauty. Report to the President and the President's response. Washington, Govt Print. Off. 48 pp. 1965.

———. Proceedings: Beauty for America. Washington, Govt. Print. Off. 782 pp. 1965.

Williams, H. G., Jr. Outdoor recreation education and the role of research. NEW YORK FORESTER 24(2):17–19, May 1967.

U.S. GOVERNMENT PRINTING OFFICE : 1968 O—323-549